Green Environment inc
www.greenenvironment.com

1347 Laurel Street
San Carlos, CA 94070
T 650.508.8018
F 650.508.8005

July 21, 2014

Mr. George Chow
Hazardous Substances Scientist
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710-2721

Re: Draft Removal Action Workplan, 837 Industrial Road, Tanklage Square, San Carlos, California

Dear Mr. Chow:

Green Environment inc. respectfully submits the enclosed *Draft Removal Action Workplan, 837 Industrial Road, Tanklage Square, San Carlos, California*, dated July 21, 2014.

Please call me at 650-508-8018 if you have questions.

Respectfully:

Mark Green
President, Green Environment inc.

Cc: Mr. Dennis Wagstaffe, 1025 Tanklage Road, #A, San Carlos, CA 94070

GEI
Green Environment inc
www.greenenvironment.com

1347 Laurel Street
San Carlos, CA 94070
T 650.508.8018
F 650.508.8005

DRAFT REMOVAL ACTION WORKPLAN

837 INDUSTRIAL ROAD
TANKLAGE SQUARE
SAN CARLOS, CALIFORNIA

GEI PROJECT: B10655

JULY 21, 2014

Mark Green
President, Green Environment inc.

Ross Tinline
Professional Geologist #5860

PROFESSIONAL GEOLOGIST
ROSS W.N. TINLINE
No. 5860
STATE OF CALIFORNIA

Table of Contents

FIGURES

TABLES

APPENDICES

EXECUTIVE SUMMARY

This Draft Removal Action Workplan (RAW) has been prepared on behalf of the Tanklage Family Partnership I (Tanklage), owner of the commercial/industrial property located at 837 Industrial Road in San Carlos, California (*subject property*). The purpose of the RAW is to present existing site conditions, establish appropriate removal action objectives (RAOs), and evaluate alternatives to identify a final recommendation for a removal action at the *subject property* that is protective of human health and the environment. The RAW has been prepared in accordance with Task 3 and Task 5 of the Voluntary Cleanup Agreement (VCA) between Tanklage and DTSC, dated October 2009.

The *subject property* is part of an industrial park known as Tanklage Square, located in a commercial/industrial area of eastern San Carlos bounded by Industrial Road to the southwest and Highway 101 to the northeast. Tanklage Square includes six (6) commercial/industrial buildings developed by Tanklage between 1978 and 1980 on approximately eight (8) acres. The *subject property* at 837 Industrial Road, San Carlos consists of the central of the three single story commercial buildings that have frontage on Industrial Road. The building on the *subject property* is approximately 22,000 square feet, and is divided into eight (8) suites (A-H), leased by Tanklage to several commercial businesses.

In 2008, a black tar-like substance was observed seeping out of the floor of a restroom located in one of the suites in the northeast portion of the building on the *subject property*. Tanklage investigated the source and extent of the tar-like substance by manually digging a trench, and sloping the trench to a deeper sump to allow for collection and removal of the tar-like substance over time. The tar-like substance was found to contain acetone, polyaromatic hydrocarbons (PAHs) including phenanthrene, chrysene, benzo[g,h,i]perylene, fluoranthene, pyrene, diesel and motor oil range organic compounds, and polychlorinated biphenyls (PCBs). Chromium, nickel, zinc and lead were also detected in the tar-like substance. The pH of the tar-like substance was 1.7. Subsequent subsurface investigations conducted on the *subject property* indicated that the tar-like substance appears to be limited to the immediate vicinity of the trenched area in the northeast portion of the building on the *subject property* and has been observed to a maximum depth of 14 feet. Based upon GEI's understanding of the history of the *subject property* and the surrounding area, and the nature of the tar-like substance, GEI believes it is possible that the tar-like substance is an acid tar, a byproduct of an acid-clay oil recycling/refining process which was employed for a number of years at a nearby property.

Soils in the area of the tar-like substance are impacted primarily with diesel to motor oil range organic compounds with the highest concentrations generally observed from 7 to 13 feet deep. Other lesser soil impacts include PCBs, PAHs (primarily chrysene and pyrene) and several heavy metals. Two volatile organic compounds (VOCs) were primarily detected in soil but at low concentrations, specifically acetone and methyl ethyl ketone. Other lesser soil impacts with VOCs include carbon disulfide, naphthalene, toluene, tetrachloroethylene (PCE), trichloroethylene (TCE), trimethylbenzenes (TMB) and xylenes. The few detections of PCE and TCE were at low concentrations mainly in saturated zone soils.

Groundwater is primarily impacted with halogenated volatile organic compounds (HVOCs), primarily chloroform, 1,2-dichloroethane (1,2-DCA), PCE and TCE. The highest concentration of PCE in groundwater was located in boring B-15 located in the inferred upgradient (south) portion of the site. The HVOCs in groundwater appear to be migrating onto the *subject property* from an undetermined offsite source or sources. Groundwater is not significantly impacted with diesel to motor oil range organic compounds, PAHs, PCBs or metals.

Chemicals of concern (COCs) for the *subject property* have been determined to be diesel to motor oil range organics and PCBs in soil, and PCE in groundwater, though the PCE appears to be from an offsite release. PCE in groundwater poses a potential vapor intrusion risk, but indoor air sampling conducted in 2009 did not indicate an indoor air risk in the area of the tar-like substance. Direct contact with the tar-like substance poses a health and safety risk.

Three (3) removal action alternatives are evaluated in this draft RAW:
(1) No Further Action (NFA);
(2) Soil Excavation and Off-Site Disposal; and
(3) Institutional Controls, and Operation and Maintenance.

Although potential risks to human health and the environment are low, Alternative (1) does not meet the Removal Action Objectives (RAOs). Alternative (2) meets the RAOs, but implementation of a large soil excavation beneath an occupied building is challenging and the cost is high compared to the other alternatives.

The proposed alternative is Alternative (3), which involves leaving impacted soils in place, while implementing institutional controls and an Operation and Maintenance Plan to monitor groundwater quality and maintain the trench and sump in good working condition with the periodic removal and disposal of accumulated tar-like substance. Land use restrictions would be applied to the *subject property*, and a regular reporting schedule would be implemented. Alternative (3) meets the RAOs with reasonable cost and implementability.

1.0 INTRODUCTION

Green Environment inc. (GEI) has prepared this *Draft Removal Action Work Plan* (RAW) on behalf of the Tanklage Family Partnership I (Tanklage), owner of the commercial/industrial property located at 837 Industrial Road in San Carlos, California (*subject property*). The draft RAW was prepared in response to a letter received from the California Department of Toxic Substances Control (DTSC), dated November 5, 2012, and in accordance with Task 3 and Task 5 of the Voluntary Cleanup Agreement (VCA) between Tanklage and DTSC, dated October 2009. This draft RAW incorporates comments prepared and submitted via email by DTSC dated July 24, 2013, upon DTSC review of a draft RAW prepared by GEI, dated May 1, 2013, and submitted via email by DTSC dated March 12, 2014, upon DTSC review of a second draft RAW prepared by GEI, dated September 13, 2013.

A RAW is one of two remedy selection documents that may be prepared for a hazardous substance release site pursuant to California Health and Safety Code (HSC) Section 25356.1, and is appropriate for removal actions that are projected to cost less than $1,000,000. In California HSC 25323.1, a RAW is defined as “a work plan prepared or approved by the Department (DTSC) or a California Regional Water Quality Control Board (RWQCB) which is developed to carry out a removal action, in an effective manner, that is protective of the public health and safety and the environment.”

Based on the information obtained from *subject property* characterization activities (described in **Section 2**), DTSC has determined that further action may be required for the *subject property* due to elevated concentrations of polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), metals, and petroleum hydrocarbons detected in soil and groundwater samples collected at the *subject property*. Following review of the draft RAW by DTSC and a public comment period, the draft RAW will be revised as necessary by GEI, and a final RAW will be submitted to DTSC for DTSC approval, and subsequent implementation. Upon completion of the remedy, a removal action report will be prepared by GEI and submitted to DTSC for review and certification.

1.1 Objectives of the RAW

The objectives of this RAW are to:

- Present and evaluate existing site conditions;
- Establish appropriate removal action objectives (RAOs) for protection of human health and the environment; and

- Evaluate alternatives and identify a final recommendation for a removal action at the *subject property* that is protective of human health and the environment.

1.2 Site Description

Tanklage Square is located in a commercial/industrial area of eastern San Carlos bounded by Industrial Road to the southwest and Highway 101 to the northeast. A site vicinity map is provided in **Figure 1**. Tanklage Square includes six (6) commercial/industrial buildings developed by Tanklage between 1978 and 1980 on approximate eight (8) acres. The *subject property* at 837 Industrial Road, San Carlos consists of the central of the three single story commercial buildings that have frontage on Industrial Road. The building on the *subject property* at 837 Industrial Road (Assessor's Parcel Number 046-140-100, lot 2) is approximately 22,000 square feet, and is divided into eight (8) suites (A-H), leased by Tanklage to several commercial businesses (**Figure 2**).

The following site history has been excerpted from the WSP Environment & Energy (WSP) *Soil and Groundwater Investigation Work Plan* dated July 21, 2010:

The land for Tanklage Square was filled originally by contractor Charles Harney when they excavated for Candlestick Park in the late 1950's. When Tanklage purchased the property in 1976 an additional 3 to 5 feet of fill was brought in by the previous owner Pimbo/Western Gear. According to a report prepared by Purcell, Rhoades & Associates in 1977, the fill material was brought in from a nearby excavation project.

*According to Tanklage, some time ago, a black tar-like substance was observed seeping out of the floor in a bathroom, located in the northwestern corner of Unit D of Building 837 (**Figure 2**). To address the issue, a sloped trench was dug from the point of surfacing to a below-grade sump in the electrical room, located at the eastern edge of the building. The sump was installed as a catch basin for the purpose of collecting the substance. This sump is cleaned out periodically, and the collected material is appropriately disposed of.*

Further historical details provided to GEI by Tanklage indicate the black tar-like substance was first observed by Tanklage in early 2008 in the bathroom of Suite D of Building 837. In response, in 2008 Tanklage investigated the extent of the tar-like substance by manually digging a shallow (approximately 16 to 24 inches below slab surface), narrow (approximately 10 inches wide on average) trench inside the building to intersect the tar-like substance where it was observed in soil, resulting in a trench that extended across the width of Suite D, and ending a few feet into the adjacent Suites C and E. The trench was dug to slope gently towards a small sump, 2.5 feet long by 1.5 feet wide by 2.7 feet deep, dug in the building electrical room to facilitate collection of the tar-like substance. Upon completion of trenching activities in 2008, the trench was covered with plywood and an approximate 4-inch thick layer of concrete to match the surrounding floor surface. The walls and floor of the trench are soil (predominantly clay). Three (3) small (4-inch diameter) metal access plates were installed along the trench to provide limited access to the trench, if needed. A concrete lidded box (without a bottom) was placed into the sump to protect against direct exposure to the tar-like substance, and allow for safe sampling and/or periodic removal of the tar-like substance. Details of the trench are presented in **Figure 3.**

The source of the tar-like substance has not been confirmed. However, the WSP *Work Plan* states that a 2007 investigation at a nearby site, 977 Bransten Road, "prompted Tanklage to consider further investigation as to the possible source of the tar-like substance beneath Building 837." According to the reported history of 977 Bransten Road, as provided by Conor-Pacific/EFW (July 14, 2000), the 977 Bransten Road site had been used to re-refine or recycle oil as early as the 1930s. Reportedly, the site was first operated using an acid-clay process to recycle/re-refine oil. A reported by-product of the acid-clay oil refining process is acid tars. Information on acid tars is provided in a 2005 paper titled *Acid tar lagoons: risks and sustainable remediation in an urban context* (Catney et. al., March 1, 2005). Acid tars are described as "acidic (pH often <2) and viscous with black color and oily smell, and of greater density than water." The Catney paper also states that common disposal routes have historically included dumping the tars in clay or gravel pits. Based on analysis of the tar-like substance found on the *subject property* (see **Section 2.0**), the proximity of the 977 Bransten Road site to the *subject property*, and the fact that the *subject property* was undeveloped land for much of the operational history of the oil recycling/re-refining facility at 977 Bransten Road, GEI believes it is possible that the tar-like substance discovered on the *subject property* is acid tar, a by-product of the oil recycling process once employed at 977 Bransten Road.

2.0 SITE CHARACTERIZATION

Characterization of the *subject property* was conducted from 2008 through 2012. A summary of the activities and results are discussed in the sections below.

2.1 Previous Site Investigations

On December 23, 2008, on behalf of Tanklage, GEI collected a sample of a "semi-solid, black tar-like" substance and a sample of the overlying water that was observed within a sump inside the electrical room at the *subject property* (GEI, January 8, 2009). Laboratory analysis indicated that the tar-like substance contained acetone, polyaromatic hydrocarbons (PAHs) including phenanthrene, chrysene, benzo[g,h,i]perylene, fluoranthene, pyrene, diesel range organic compounds, motor oil range organic compounds, and polychlorinated biphenyls (PCBs). Chromium, nickel, zinc and lead were also detected in the tar-like substance. The pH of the tar-like substance was 1.7. The overlying water sample did not contain detectable concentrations of volatile organic compounds (VOCs) or gasoline range organic compounds (GRO). Low concentrations of metals were detected in the water sample, which had a pH of 2.4.

An initial soil and groundwater investigation was performed at the *subject property* by WSP on September 28, 2009, to delineate the lateral and vertical extent of the “tar-like” substance inside the *subject property* building. A total of four (4) borings, WSP-1 through WSP-4, were installed using DPT to a depth of sixteen (16) feet below top surface (bts) (see **Figure 4**). Grab groundwater samples were collected from borings WSP-2 through WSP-4. Soil samples were collected from each boring at depths as follows: WSP-1 at 6.5, 12.5, and 15 feet bts; WSP-2 at 12.5 feet bts; WSP-3 at 8.5, 12.5, and 15 feet bts, and WSP-4 at 9, 12.5, and 15 feet bts. In October 2009, Tanklage entered into a Voluntary Cleanup Agreement with the Department of Toxic Substances Control (DTSC). DTSC requested an additional investigation be performed at the *subject property* to expand the soil and groundwater investigation and delineate the lateral and vertical extent of the “tar-like” substance encountered in the initial investigation. In response, WSP prepared a *Soil and Groundwater Investigation Work Plan* on May 21, 2010, which was revised on July 21, 2010 to incorporate comments received from DTSC. The proposed work was completed by GEI in general accordance with the WSP July 21, 2010 *Work Plan* from November, 2010 through January, 2011, and GEI prepared an *Expanded Site Investigation Report* (GEI, March 2, 2011) presenting the investigation results. The GEI investigation included installation of an additional thirteen (13) borings, B-5 through B-17, to a depth of eighteen (18) feet bts. Grab groundwater samples were collected from each boring location, and soil samples were collected from borings B-5 through B-15 (**Figure 3**). Soil sample depths ranged from 3.5 to 16.5 feet bts, and are listed in **Table 1**. A total of thirteen (13) groundwater samples with two (2) duplicates, and 35 soil samples with three (3) duplicate samples were collected during the November 2010 – January 2011 investigation. As indicated on **Tables 1 through 4**, soil and groundwater samples collected in November were analyzed for TPHd and TPHmo by EPA Method 8015B with a silica gel cleanup, VOCs (EPA 8260B), PAHs (EPA 8270SIM), PCBs (EPA 8082), select metals (cadmium, chromium, nickel, lead, zinc, by EPA 6010B), and pH (ASTM 9045C). In addition, soil samples were analyzed for moisture content to allow results to be corrected for dry weight.

Based on the findings of the site investigations, DTSC requested that one (1) groundwater monitoring well be installed on the *subject property* to monitor groundwater conditions downgradient of subsurface contaminants discovered at the eastern side of the *subject property* building. The monitoring well (MW-1) was installed on June 4, 2012, to a depth of 17 feet below bts. GEI prepared a *Well Installation and Sampling Report* (GEI, October 9, 2012) presenting the findings of the well installation and sampling activities performed. Four soil samples were collected during the drilling of MW-1, at depths of 6, 7.5, 8.5, and

20 feet bts. The results for the laboratory analyses of the four soil samples are presented in **Table 1**.

During installation of well MW-1, Mr. Tom Lanphar and Ms. Michelle Dalrymple of DTSC visited the *subject property* to observe the well installation. In a memo prepared on June 6, 2012, Mr. Lanphar documented observations including a small amount of black oil seeping from a floor cover in the bathroom of Suite D, and dark staining along cracks in the concrete floor of the warehouse area in the same Suite (DTSC, June 6, 2012). It should be noted that Mr. Lanphar incorrectly noted the interior space inspected as Suite D, as the space inspected is actually Suite E. On September 10, 2012, Mr. Lanphar accompanied Mr. Mark Green of GEI on a re-inspection of Suite E, and an inspection of the interior of Suite D, which Mr. Lanphar had not inspected in June 2012. Mr. Lanphar documented his September 2012 observations in a memo dated October 10, 2012, where he incorrectly identified Suite D as Suite C, and Suite E as Suite D. Mr. Lanphar observed the same conditions in Suite E as observed in his June 2012 inspection. In response, GEI contracted with Environmental Restoration Services (ERS) of Menlo Park, California, to investigate the oil seepage observed in the restroom of Suite E. A site map is provided in **Figure 2**.

In November 2012, ERS removed several vinyl floor tiles and a section of adjacent drywall behind the toilet on the east side of the restroom in Suite E (**Figure 3**), and noted that a small amount of the black tar-like substance was present within and at the metal base of the wall cavity, adjacent to a vent pipe within the wall for the toilet. The tar-like substance had migrated to a limited degree beneath the adjacent floor tiles and could be seen at the surface of several tile joints. ERS removed the tar-like substance using scraping tools, a small amount of diesel fuel, and rags. Once clean, ERS filled the wall metal base with concrete, including the gap where the toilet vent pipe penetrates the floor. The restroom was then reconstructed. Photos including descriptions are provided in **Appendix A**. Wastes were placed into a labeled, sealed container, and is pending proper offsite disposal.

To investigate the source of dark surface staining along minor cracks in the concrete floor of the warehouse area of Suite E, in December 2012, GEI contracted with Superior Coring and Cutting, Inc. (Superior) of Daly City, California, to cut three (3) 4-inch diameter cores (CC-1 through CC-3) completely through the concrete slab at representative areas of floor staining. GEI then inspected the concrete cores and the surface of the underlying base material, and did not observe any visible evidence of the tar-like substance either in the concrete core (other than at the surface of the core) or on the surface of the underlying base material. Based upon these observations, GEI believes the black staining observed on the surface of concrete in some locations in the warehouse area of Suite E is due to minor past surface chemical spills or leaks, and not from the tar-like substance. The three described concrete core locations are shown in **Figure 4,** and photos are provided with descriptions in

Appendix A.

2.2 Results of Site Subsurface Investigations

Soil and groundwater investigations performed by WSP in September 2009 (WSP, July 21, 2010), and GEI in November 2010 and January 2011 (GEI, March 2, 2011), have aided in evaluating the extent of the tar-like substance on the *subject property*. The tar-like substance has only been observed in boring WSP-1 between 12.5 and 14.2 feet bts, and within a trench constructed to route the substance that nears the surface to a collection sump (**Figure 3**).

Summary subsurface investigation findings indicate that diesel range organics (DRO) and motor oil range organics (MRO) have been detected in a majority of soil samples from 6.5 to 8.5 feet bts located proximal to the trench and previous borings WSP-1 and WSP-3 (**Table 1, Figure 5**). DRO and MRO have been detected in only one groundwater sample collected on the *subject property*, at boring WSP-3, which contained 21,000 μg/L DRO and 62,000 μg/L MRO in a grab groundwater sample (**Table 2, Figure 5**). PAHs and PCBs have been detected in soil samples generally consistent with elevated extractable petroleum hydrocarbons (**Table 1, Figures 5 and 6**). Consistent with the DRO and MRO findings, PAHs and PCBs have not significantly impacted groundwater on the *subject property* (**Table 2, Figure 7**).

GRO has been detected in *subject property* groundwater at relatively low concentrations (**Table 2, Figure 9**), but GRO was detected in only two (2) *subject property* soil samples at low concentrations (**Table 1**).

VOCs have not been detected in *subject property* soil at significant concentrations (**Table 1, Figure 9**). However, VOCs – primarily halogenated VOCs (HVOCs) – have been detected in groundwater beneath the *subject property*. The only non-halogenated VOC detected in groundwater has been methyl-tert-butyl ether (MTBE), detected in only a few groundwater samples at low concentrations (**Table 2**, **Figure 9**). HVOCs are present in groundwater across the *subject property* with the highest HVOC concentration detected in a grab groundwater sample collected in the southwest corner of the *subject property* (B-15), where 1,700 micrograms per liter (μg/L) of tetrachloroethylene (PCE) was detected.

Sampling of soil and groundwater for metals (**Table 3, Figure 10)** has included analyses for cadmium, chromium, lead, nickel and zinc per Unidocs UN-078-1/1, Recommended Minimum Verification Analyses for Underground Storage Tank Leaks for Waste, Used or Unknown Oil. Metals have been detected in *subject property* soils above reported background concentrations. However, groundwater is not significantly impacted with dissolved concentrations of any of the five (5) metals (**Table 4, Figure 11**).

One (1) groundwater monitoring well (MW-1) was installed on the *subject property* in June 2012 at a location inferred to be downgradient (northeast) from the location where the tar-like substance has been discovered. The groundwater flow direction in the upper water-bearing zone in the immediate vicinity of the *subject property* has been determined to be to the north-northeast at a hydraulic gradient of approximately 0.005 foot per foot based upon historic monitoring of twenty-two groundwater monitoring wells installed (including one well at 821 Industrial Road approximately 200 feet northwest of *subject property*) by the parties responsible for the chemical release(s) at and from the 977 Bransten Road site (Watson Consulting/Georestoration Inc., March 6, 2013).

2.3 Potential Off-Site Sources of VOCs in Groundwater

VOCs which have been detected in groundwater on the *subject property* include carbon tetrachloride (CCl4), chloroform, 1,1-DCA, 1,2-DCA, 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, PCE, TCE, CFC-113, vinyl chloride, and MTBE. Of the VOCs detected in groundwater, PCE has been detected at the highest concentrations, with PCE detected; at 1,700 μg/L outside the *subject property* building at an inferred upgradient location (B-15); at 730 μg/L near the tar-like substance source area at an inferred mid gradient location (B-13); and at 180 μg/L at an inferred downgradient location (B-7) (GEI, March 2, 2011). The VOCs detected in groundwater were either not detected in soil samples on the *subject property*, or were detected at very low concentrations, indicating that there is not a significant source of VOCs on the *subject property*. Thus, GEI believes VOCs are migrating onto the *subject property* from an offsite source or sources. In the *Expanded Site Investigation Report* (GEI, March 2, 2011), research was conducted by GEI regarding potential off-site sources of VOC contamination. A map showing the relative locations of the identified potential off-site sources with the *subject property* is presented as **Figure 12**. The following sites were considered (refer to the March 2011 report for a full description):

- 960 Industrial Road (located approximately 300 feet south of *subject property*). The site was developed in the 1950s by Litton. Historical site operations consisted of the design, manufacture, and distribution of microwave components for use in weather radar equipment, medical devices, and communication equipment for military aircraft and ships. Since 2002, the site has been operated by L3 Electron devices. Environmental characterization activities have been performed at the site from 1986 to present by Stantec and others. The site includes sixteen (16) groundwater monitoring wells, with no wells offsite. The main contaminants of concern (COCs) are PCE, TCE, and 1,2-DCE (Stantec, August 16, 2010).

- 977 Bransten Road (located approximately 500 feet southwest *of subject property*). The site was originally developed as an oil recycling and refining facility in the 1930's, operated by Bayside Oil Company. Bayside Oil used the acid-clay oil refining process. The Bayside Oil site was acquired by the Garratt-Callahan Company in 1980. G-C Lubricants, a specialty lubricant blending company, conducted operations on the eastern portion of the site. California Oil Recyclers, Inc. (CORI) leased the western portion of the site from late 1981 to late 1987 to store and recycle/re-refine used motor and fuel oils into useable fuel oil by batch distillation. Waste oil, fuel oil, diesel fuel, oily water, processing residues, lab chemicals, demulsifying chemicals, boiler treatment chemicals, and alkaline caustic liquids were generated, used, stored, treated or managed at the facility in a tank farm, main operations area, and storage building (Aquifer Sciences, Inc., May 19, 1989, and Watson Consulting, March 6, 2013).

  Beginning in June 1988, a number of subsurface investigations have been performed both onsite and offsite. Significant chemical impacts to soil were discovered on the site associated with former on-site operations. First encountered groundwater on the site contained floating product at some locations. COCs include petroleum hydrocarbons, PCBs, and VOCs including benzene, xylenes, PCE, TCE, cis-1,2-DCE, and vinyl chloride.

- 1007 Bransten Road (located approximately 700 feet southwest of *subject property*). This property was used in the 1950s as a "Rock Wool Insulation Factory", and was later redeveloped with two buildings that have housed miscellaneous business operations, including machine shops. Historical records indicate machine oils and cleaning/degreasing solvents have been used and stored on the site in both drums and containers, and waste oils and waste solvents have been generated on the site. Subsurface investigations completed at the site beginning in January 2009 have discovered mainly petroleum hydrocarbons and VOCs in soil and groundwater beneath the site. The concentrations of all of these contaminants in groundwater decrease significantly at the downgradient (eastern) property line (Green Environment inc., July 31, 2009).

- 1015 Commercial Street (located approximately 800 feet southwest *of subject property*). In April 1985, three (3) underground storage tanks (USTs) were removed from the site, including one 10,000 gallon gasoline tank, one (1) 10,000 gallon diesel tank and one (1) 10,000 gallon mineral spirits tank. In February 1986, eleven (11)

USTs were removed from the site. The USTs had contained vinyl acetate monomer, butyl cellosolve, amyl acetate, xylenes, isobutyl isobutyrate, lacquer thinner, toluene, isopropyl alcohol, and n-propyl acetate (BlaineTech Services, February 20, 1986). In August 1995, seven (7) 10,000 gallon metal USTs were removed from the site (AES Construction, August 1996). The USTs had contained propylene glycol, aliphatic hydrocarbons, ethylene glycol, butyl acrylate, methyl methacrylate, styrene monomer, naphtha, and vinyl acetate. Groundwater samples indicated the presence of significant concentrations of petroleum hydrocarbons, and low levels of VOCs including BTEX compounds and naphthalene.

Based on available information, GEI does not believe that the HVOCs detected in groundwater are from an onsite source.

2.4 Regional Geology and Hydrogeology

The *subject property* is situated in San Mateo County in the San Francisco Bay Region, which is part of the Coast Ranges geological province. The San Francisco Bay Region occupies the structural trough formed by two northwest trending mountain ranges; the Santa Cruz Mountains to the southwest of the valley and the Diablo Range to the northeast. The Diablo Range is predominantly composed of Franciscan Formation, which is uppermost Jurassic to lower Upper Cretaceous eugosynclinal assemblage. The Santa Cruz Mountains are predominantly composed of material formed of Cenozoic shelf and slope deposits. A thick blanket of latest Cretaceous and Tertiary clastic sedimentary rocks and isolated intrusions of serpentine covers large parts of the province. Folds, thrust faults, steep reverse faults, and strike-slip faults developed as a consequence of Cenozoic deformations that occur very often within the province, and some of them are continuing today. The Quaternary history of the region is recorded by sedimentary marine strata alternating with non-marine strata. The changes of the depositional environment are related to the fluctuation of sea level corresponding to the glacial and interglacial periods. Late Quaternary deposits fill the center of the San Francisco Bay Area and most of the strata are of continental origin characterized as alluvial and fluvial materials (Brabb, Graymer, and Jones, 1998).

Groundwater in the flatland areas of the Bay region occurs in the Holocene through Pleistocene alluvial and stream channel deposits. The water bearing zones are generally discontinuous. Within the Bay region, higher water tables are found most commonly in tidal mudflats underlain by Bay mud and in low flood-basins at the outer margins of alluvial fans. The lower water tables occur in higher well-drained alluvial areas underlain by coarse-grained deposits. Recharge to the groundwater is accomplished through man-made percolation ponds, natural recharge basins, and infiltration from surface waters (lakes and streams) or precipitation. The regional gradient in all water bearing zones is generally estimated to be toward the San Francisco Bay.

2.5 Site Geology and Hydrogeology

Lithologic observations from the soil recovered during previous borings and well installation at the site generally encountered olive-gray clay with minor gravel locally interbedded with silty sand with minor gravel from beneath the asphalt or concrete surface to between approximately 5 and 8 feet bts. Beneath the clay with gravel, a dark gray to olive gray high plasticity (locally fat) clay was generally encountered between 8 and 14 feet bts, though with depth below 10 feet the clay becomes light brown with increasing sand content. Near the upper contact of this fat clay, petroleum hydrocarbon staining and odor were often observed with associated elevated flame-ionization detector (FID) measurements; fine rootlets were also observed (generally at between 7.5 to 8 feet bts). No hydrocarbon staining or odor were observed at 8 feet bts in the three (3) borings completed upgradient of the *subject property* building (B-15 through B-17). A permeable sand, silty sand or clayey sand was then often encountered between 12 and 16 feet bts, within which first encountered groundwater was observed. Most borings were then generally terminated within a light brown clay at between approximately 16 feet bts and the maximum depth explored of 18 feet bts. Groundwater generally stabilized at between approximately 6.4 and 9.0 feet bts.

Although impacts to soil in the source area have historically been observed as deep as 13.5 feet bts, visual evidence of impact to soil was not observed at MW-1 below 8.5 feet bts, and FID readings were low at 3 to 16 parts per million by volume (ppmv).

The groundwater flow direction and gradient has not been determined for the *subject property*. The groundwater flow direction in the upper water-bearing zone in the immediate vicinity of the *subject property* has been determined to be to the north-northeast at a hydraulic gradient of approximately 0.005 foot per foot based upon historic monitoring of twenty-two groundwater monitoring wells installed (including one well at 821 Industrial Road approximately 200 feet northwest of *subject property*) by the parties responsible for the chemical release(s) at and from the 977 Bransten Road site (Watson Consulting/Georestoration Inc., March 6, 2013).

2.6 Background Metal Concentrations

Metals occur naturally in soils. EPA (1989) and DTSC (1997) guidance indicates that risk evaluations for metals are only necessary when the levels exceed naturally occurring background concentrations. To distinguish between site-related contamination and naturally-occurring or ambient contaminant levels, in **Table 3** concentrations of the five (5) metals analyzed in *subject property* soils are compared to the following references for background metals concentrations in soils:

Background Concentrations of Trace and Major Elements in California Soils, Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California. March 1996.

Background Metal Concentrations in Soils in Northern Santa Clara County, California in *Recent Geologic Studies in the San Francisco Bay Area*, Christina M. Scott. 1995.

The Scott (1995) report is used as a reference for background concentrations of chromium, nickel, lead, and zinc, in soils on the *subject property*, as this report represents soils nearest to the *subject property* geographically. The Scott report does not provide a background level for cadmium, as cadmium was not detected in a majority of the soil samples collected for the Northern Santa Clara County document. The Bradford et al (1996) report includes data for soils collected over the entire state of California, with each soil location numbered (from 1 to 50). Location number 49, Venice soil from San Joaquin County, is the nearest geographically to the *subject property*. Values from location 49 were used as background screening levels for cadmium in *subject property* soils, as indicated in **Table 3**.

A summary of *subject property* soil metal concentrations and background concentrations is provided in **Table A** below**.**

Table A. Comparison of Metals Concentrations in Subject Property Soils to Background Concentrations (in milligrams per kilogram)

	Cadmium	Chromium	Lead	Nickel	Zinc
Maximum concentration (on site location)	1.5 (MW-1)	800 (B-6)	870 (WSP-1)	2,200 (B-6)	110 (B-11)
Mean sitewide concentration	0.12	143.7	54.2	300.82	47.66
Local background level (Scott 1995)	0.73[1]	51.28	11.43	73.53	65.27

[1] *From Bradford et al, 1996 (Venice soil)*

Based upon a combination of the maximum concentrations detected, the mean concentrations of the five metals in *subject property* soils in comparison to the referenced average background concentrations (and high and low range of referenced concentrations; see **Table 3** and summary **Table A**), it appears that chromium, lead and nickel concentrations in *subject property* soils in the tar-like substance source area exceed background levels.

2.7 Nature and Extent of Contamination

Sample locations from investigations on the *subject property* from 2008 through 2012 are shown in **Figure 4**, and the sample analytical results are presented in **Tables 1** through **4,** and **Figures 5** through **11**. A detailed description of the nature and extent of contamination is presented below.

2.7.1 Tar-like Substance

An initial sample of the tar-like substance was collected by GEI from the sump in the electrical room of the *subject property* building in December 2008. The tar-like substance was found to contain the following chemical constituents: acetone (170 micrograms per kilogram [µg/kg]), phenanthrene (22,000 µg/kg), chrysene (13,000 µg/kg), benzo[g,h,i]perylene (15,000 µg/kg), fluoranthene (13,000 µg/kg), pyrene (9,500 µg/kg), PCB-1260 (13,000 µg/kg), diesel range organics (90,000 milligrams per kilogram [mg/kg]), motor oil range organics (220,000 mg/kg), cadmium (1.5 mg/kg), chromium (3.0 mg/kg), nickel (2.3 mg/kg), lead (1,200 mg/kg), zinc (13 mg/kg), and a pH of 1.70. Water present in the sump above the tar-like substance in December 2008 was also sampled and analyzed for TPHg, VOCs, and heavy metals (cadmium, chromium, lead, nickel and zinc), and was found to contain the following chemical constituents: cadmium (0.012 milligrams per liter (mg/l), chromium (0.041 mg/l), lead (0.53 mg/l), nickel (0.036 mg/l), zinc (0.30 mg/l), and a pH of 2.54 (GEI, January 8, 2009).

The extent of the black tar-like substance appears to be limited to the immediate vicinity of the trenched area shown in **Figure 4**, to a maximum depth of 14.2 feet bts, as the tar-like substance has been observed in only one (1) boring (WSP-1) on the *subject property*, at a depth from 12.5 to 14.2 feet bts (WSP, July 21, 2010).

2.7.2 Soil

Two (2) primary VOCs were detected in soil on the *subject property* at low concentrations, specifically acetone and 2-butanone (methyl ethyl ketone or MEK) (**Table 1**, **Figure 8**). Both of these compounds have been generally widely used historically as cleaning products. In addition, low concentrations of other VOCs including: naphthalene at borings B-10 and WSP-1; toluene at borings WSP-1, B-5, and B-6; PCE at borings B-11, B-12, B-14, and B-15; trichloroethylene (TCE) at borings B-5 and B-15; trimethylbenzenes (TMB) at borings WSP-1, B-5, and B-11; xylenes at borings WSP-1 and B-14; and carbon disulfide at borings B-5 and B-9 were detected in *subject property* soils.

Total extractable petroleum hydrocarbons in the diesel (TPHd) and motor oil (TPHmo) ranges were detected at every sample location, with the exception of TPHmo in soil samples from MW-1 and B-7. The highest concentrations of extractable TPH are generally observed in the 7.0 to 13.0 feet depth range, in the eastern portion of the *subject property* (**Table 1, Figure 5**). Sample locations with the highest concentrations of TPHd and TPHmo were detected in borings B-5 and B-6 (7.5-8.0 feet depth) and boring WSP-1 (12.5-13.5 feet depth). Significant (>1,000 mg/kg) concentrations of TPHd and TPHmo were also observed between 7.5 and 9.5 feet bts at borings B-9, B-11, B-12, and WSP-3. TPHg was detected in only two (2) soil samples, at a maximum concentration of 0.44 mg/kg.

Generally, low concentrations of PAHs were detected in most of the soil samples collected from the 7.5-10 feet depth range (**Table 1**, **Figure 6**). The most common PAHs reported were chrysene and pyrene. Several other PAHs were reported at least once, with the highest concentrations of PAHs reported from borings WSP-1 (12.5-13.5 feet depth) and WSP-3 (8.5-9.5 feet depth).

The only PCB isomer detected in *subject property* soils above laboratory detection limits is PCB-1260. PCB-1260 was detected in soil samples with extractable TPH, and generally there was a correlation of relative concentrations of extractable TPH and PCB-1260. The highest concentrations of PCB-1260 were detected in soil samples collected from borings B-5, B-6, B-7, B-9, B-13, B-14, WSP-1, WSP-2, and WSP-3, with the highest concentrations of PCB-1260 observed in the 7.5-8.5 feet depth range (**Table 1, Figure 6**).

Five (5) metals (cadmium, chromium, lead, nickel, and zinc) have been analyzed in soil and groundwater samples collected on the *subject property*. With the exception of cadmium, all of the metals have been reported above laboratory reporting limits, at varying concentrations in all soil samples (**Table 3, Figure 10**). Cadmium was detected in only six (6) soil samples, at concentrations generally consistent with reported naturally occurring background concentrations. Chromium was detected in every soil sample, with the concentrations detected generally consistent with reported naturally occurring background concentrations, with the exception of certain soil samples collected at boring WSP-1 (170 mg/kg at 6.5 to 7.5'), boring B-5 (760 mg/kg at 5.5 to 6.0', 270 mg/kg at 7.5 to 8.0'), boring B-6 (120 mg/kg at 3.5 to 4.0', 800 mg/kg at 5.5 to 6.0'), boring B-7 (480 mg/kg at 5.5 to 6.0'), boring B-9 (360 mg/kg at 5.0 to 5.5'), boring B-10 (430 mg/kg at 5.5 to 6.0'), boring B-12 (240 mg/kg at 5.5 to 6.0'), boring B-13 (320 mg/kg at 5.5 to 6.0'), boring B-14 (460 mg/kg at 5.5 to 6.0'), and boring MW-1 (180 mg/kg at 6.0 to 6.5'). Lead was detected in every soil sample, with the concentrations detected generally consistent with reported naturally occurring background concentrations, with the exception of certain soil samples collected at boring WSP-1 (870 mg/kg at 12.5 to 13.5'), boring WSP-2 (110 mg/kg at 12.5 to 13.5'), boring B-6 (180 mg/kg at 7.5 to 8.0'), boring B-9 (140 mg/kg at 7.5 to 8.0'), boring B-11 (280 mg/kg at 7.5 to 8.0'), boring B-12 (110 mg/kg at 8.0 to 8.5'), and boring B-14 (330 mg/kg at 8.0 to 8.5'). Nickel was detected in every soil sample, with the concentrations detected generally consistent with reported naturally occurring background concentrations, with the exception of certain soil samples collected at boring WSP-1 (470 mg/kg at 12.5 to 13.5'), boring WSP-2 (150 mg/kg at 12.5 to 13.5'), boring B-5 (1,700 mg/kg at 5.5 to 6.0' and 740 mg/kg at 7.5 to 8.0'), boring B-6 (180 mg/kg at 3.5 to 4.0' and 2,200 mg/kg at 5.5 to 6.0'), boring B-7 (1,100 mg/kg at 5.5 to 6.0'), boring B-9 (900 mg/kg at 5.0 to 5.5'), boring B-10 (980 mg/kg at 5.5 to 6.0'), boring B-11 (130 mg/kg at 6.0 to 6.5'), boring B-12 (770 mg/kg at 5.5 to 6.0'), boring B-13 (1,100 mg/kg at 5.5 to 6.0'), boring B-14 (1,400 mg/kg at 5.5 to 6.0'), and boring MW-1 (340 mg/kg at 6.0 to 6.5', and 150 mg/kg at 8.0 to 8.5'). Zinc was detected in every soil sample, generally consistent with reported naturally occurring background concentrations.

2.7.3 Groundwater

Acetone and MEK have not been detected in groundwater (**Table 2**). MTBE has been detected in a few groundwater samples, with the highest concentration (12 µg/L) detected in a grab groundwater sample collected from boring B-16. No other non-halogenated VOCs have been detected in groundwater beneath the *subject property*. HVOCs have been detected in all groundwater samples with the HVOCs detected in all or most of the groundwater samples being chloroform, 1,2-dichloroethane (1,2-DCA), PCE and TCE (**Table 2).** Chloroform has been detected in all but one (1) groundwater samples, ranging from 1.7 µg/L to 21 µg/L. 1,2-DCA was detected in all groundwater samples, ranging from 4.1 µg/L to 25 µg/L. PCE has been detected in all but two (2) groundwater samples, ranging from 4.6 µg/L to 1,700 µg/L. The highest concentration of PCE was detected in the inferred upgradient boring B-15, located in the southwest corner of the *subject property*, outside the *subject property* building (**Figure 9**). The next highest PCE concentration was detected in boring B-13 at 730 µg/L, located within Suite D of the *subject property* building, near the tar-like substance source area (**Figure 9**). TCE was detected in all but one (1) groundwater samples, ranging from 0.52 µg/L to 110 µg/L. The highest concentration of TCE in groundwater was found at boring B-5, located just outside the east side of Suite D (**Figure 9**). TCE is a common degradation product of PCE, along with cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride. Both of the latter compounds were detected in a majority of the groundwater samples, ranging from 1.1 µg/L to 11 µg/L for cis-1,2-DCE, and 0.52 µg/L to 4.9 µg/L for vinyl chloride. The highest concentration of cis-1,2-DCE in groundwater was found at boring B-5, located just outside the east side of Suite D (**Figure 9**). The highest concentration of vinyl chloride in groundwater was found at boring B-17, located in the western corner of the *subject property*, outside the *subject property* building (**Figure 9**). Other HVOCs detected in groundwater samples (in more than 50% of the samples) include carbon tetrachloride (CCL4) ranging from 1.5 µg/L to 48 µg/L, 1,1-DCA ranging from 4.1 µg/L to 25 µg/L, 1,1-dichloroethene (1,1-DCE) ranging from 0.59 µg/L to 3.6 µg/L, CFC-11 ranging from 11 µg/L to 53 µg/L, and CFC-113 ranging from 2.7 µg/L to 52 µg/L.

TPHg was detected in groundwater samples collected predominantly in the easterly borings at maximum concentrations of 310 µg/L in boring WSP-3 and 250 µg/L in boring B-5. TPHg concentrations were all noted by the laboratory as due to discrete peaks in the gas chromatogram, indicating that the reported TPHg is due primarily to VOCs, rather than gasoline.

TPHd and TPHmo, though detected at elevated concentrations in historical boring WSP-3 (21,000 µg/L and 62,000 µg/L, respectively) were not reported above detection limits in any groundwater sample analyzed during more recent investigations (**Table 2, Figure 5**).

Five (5) different PAHs (naphthalene, fluoranthene, fluorene, chrysene, and phenanthrene) were detected above laboratory reporting limits in one (1) or more groundwater samples (**Table 2, Figure 7**). However, the PAH detections were infrequent and at low concentrations (< 1.0 µg/L).

There were no detections of any PCBs in any groundwater samples (**Table 2**).

Chromium, nickel, lead and zinc were detected at elevated concentrations in the grab groundwater samples collected by WSP in 2009 (**Table 4**). However, the grab groundwater samples collected by WSP were not filtered prior to preservation, and thus the reported concentrations reflect total, not dissolved metals. In the groundwater samples subsequently collected by GEI, the samples were filtered by the laboratory prior to preservation, and thus the reported concentrations reflect dissolved metals. Only dissolved zinc has been detected frequently in *subject property* grab groundwater samples, at a maximum concentration of 23 µg/L (**Table 4**).

2.8 Risk Evaluation

2.8.1 Screening Levels

A Tier 1 risk evaluation for the *subject property* was performed by GEI using established environmental risk screening levels for both residential and commercial/industrial sites where groundwater is a potential source of drinking water. Environmental risk screening levels considered in the risk evaluation for soil included:

- OEHHA California Human Health Screening Levels (CHHSLs) for commercial/industrial AND residential land use (Cal-EPA, January 2005, September 2009);
- US EPA Region 9 Regional Screening Levels (RSLs) for residential and industrial soils (US EPA, November 2013);
- US EPA Region 9 Preliminary Remediation Goals (PRGs) (2004) and "Cal-Modified" 2004 US EPA Region 9 PRGs, California Department of Toxic Substances Control Office of Human and Ecological Risk, Human Health Risk Assessment Note Number: 3, May 21, 2013)
- San Francisco Bay Region RWQCB Environmental Screening Levels (ESLs) for residential and commercial/industrial land use where groundwater IS a potential source of drinking water (RWQCB, Tables A-1, A-2, C-1, and C-2, December 2013);

Environmental risk screening levels considered in the risk evaluation for groundwater included:

- California Department of Public Health (CDPH) MCLs for drinking water, state (CDPH, June 2012);
- US EPA Maximum Contaminant Levels (MCLs) for drinking water, federal (US EPA, March 2010);
- US EPA Region 9 RSLs for Tapwater (US EPA, November 2013) ; and
- SF Bay Area RWQCB ESLs for groundwater, where groundwater IS a potential source of drinking water (RWQCB, Table F-1a, December 2013).
- SF Bay Area RWQCB ESLs for groundwater, for Evaluation of Potential Vapor Intrusion (RWQCB, Table E-1, December 2013).

For risk evaluation, detected chemical concentrations in soil and groundwater were compared to the most conservative of the above listed environmental risk screening levels for residential and commercial/industrial land uses, but only comparing chemical concentrations to RWQCB ESLs where no other screening levels have been established (TPHg, TPHd, TPHmo, and phenanthrene). If a chemical constituent was reported at a concentration above one (1) or more of the environmental risk screening levels, it is considered a contaminant of potential concern (COPC).

For metal constituents in soil, only concentrations above reported naturally occurring background concentrations AND environmental risk screening levels are considered COPCs.

Tar-Like Substance Comparison to Screening Levels

The tar-like substance was sampled and analyzed in 2008, and the analytical results are presented in **Section 2.7.1**. A comparison of chemical constituents detected in the tar-like substance to environmental risk screening levels is not appropriate given that the tar-like substance is of a material nature that is not consistent with the assumptions and models used to derive environmental screening levels.

Water overlying the tar-like substance in the sump was also sampled, and analyzed chemical constituents detected in the water did not exceed screening levels.

It should also be noted that both the tar-like substance and water present in the trench in 2008 above the tar-like substance had a very low pH, 1.70 and 2.54, respectively, representing a physical direct contact risk.

Soil Risk Screening and COPCs

Organic chemical soil constituents at concentrations above an environmental risk screening level for residential and/or commercial land uses are depicted by a shaded box in **Table 1.** Thus, organic COPCs in soil include TPHd, TPHmo, PCB-1260, benzo(a)pyrene, and benzo(b)fluoranthene. Metal soil constituents at concentrations above reported naturally occurring background concentrations AND an environmental risk screening level for residential and/or commercial land uses are depicted by a shaded box in **Table 3.** Thus, lead and nickel are soil COPCs.

Groundwater Risk Screening and COPCs

Organic chemical groundwater constituents at concentrations above an environmental risk screening level are depicted by a shaded box in **Table 2**, and include TPHg,TPHd, TPHmo, MTBE, CCL4, chloroform, 1,2-DCA, cis-1,2-DCE, PCE, TCE and vinyl chloride. All are considered organic COPCs in groundwater with the exception of

TPHg, not considered a COPC due to its reported concentrations noted by the laboratory as primarily due to discrete VOCs. Dissolved metal groundwater constituents are compared to environmental risk screening levels in **Table 4**, and no dissolved metals have been detected at or above an environmental risk screening level, and thus metals are not COPCs in groundwater.

Chemicals of Concern (COCs)

Soil

Factoring the low frequency of detection in soil at concentrations above environmental risk screening levels, GEI eliminated benzo(a)pyrene and benzo(b)fluoranthene as organic COCs in soil. Thus, the only organic COCs in soil are TPHd, TPHmo, and PCB-1260.

Factoring the low frequency of detection in soil at concentrations above environmental risk screening levels, GEI eliminated nickel as a metal COC in soil. Using guidance from the DTSC Office of Human and Ecological Risk (HERO) Human Health Risk Assessment (HHRA) Note Number 3 (DTSC, May 21, 2013), the 95% upper confidence level (UCL) for lead was calculated for the *subject property*. Using all data points, the 95% UCL is 96 mg/kg, which is above the residential CHHSL for lead of 80 mg/kg. However, one (1) sample collected from borehole WSP-1 contained an anomalously high concentration of lead at 870 mg/kg, and is considered an outlier. This sample was collected immediately adjacent to the tar collection trench at a depth of 12.5 to 13.5 feet, and was observed to contain the tar-like substance. Recalculating without this sample lead concentration, the 95% UCL for lead at the *subject property* is 57 mg/kg, which is below the residential CHHSL for lead (**Appendix B**). Thus, GEI eliminated lead as a metal COC in soil.

Groundwater

TPHd and TPHmo have been detected in only one (1) of eighteen (18) grab groundwater samples, and have not been detected in a groundwater well sample, thus TPHd and TPHmo are not considered COCs in groundwater. The concentrations of seven (7) VOCs exceed environmental risk screening levels in more than one (1) sample: CCL4; chloroform; 1,2-DCA; cis-1,2-DCE; PCE; TCE and vinyl chloride **(Table 2),** and thus are COCs in groundwater. However, as stated in Section 2.3, there does not appear to be an onsite source of the VOCs detected in groundwater on the *subject property*.

2.8.2 Exposure Pathways

The following potential exposure pathways were explored in performing a risk evaluation for COPCs at the *subject property*.

Direct Contact

Direct contact with the tar-like substance presents a health risk due to the low pH of the substance. As the *subject property* is capped with a building with a concrete slab foundation and paving, direct contact with the tar-like substance can occur only during subsurface construction activities, or if the tar-like substance migrates to the surface through cracks, gaps or penetrations in the concrete slab or paving.

The highest concentrations of COCs in soils are found at depths greater than 7.5 feet bts. COCs in soil were not reported above any environmental risk screening levels at depths shallower than 7.5 feet bts. Soil on the *subject property* is capped by the *subject property* building and paving outside the building. Thus, there is not a direct contact exposure pathway for onsite workers or typical construction contractors associated with COCs.

Upon penetration of the permeable sand at between 12 and 16 feet bts, groundwater generally stabilized at between approximately 6.4 and 9.0 feet bts. Direct contact with impacted soil or groundwater is therefore not considered an exposure pathway for onsite workers or typical construction contractors.

Drinking Water

There are no water supply wells within a one (1) mile radius of the *subject property*. Water supply for the City of San Carlos is provided by the California Water Service Company and comes from the Hetch Hetchy Reservoir. Drinking water is not considered to be a potential exposure pathway at the *subject property*.

Major Construction Activities

Major construction activities present the most likely potential human exposure routes to the tar-like substance, and impacted soil and groundwater on the *subject property*. However, there are currently no plans for major construction at the *subject property*.

Potential Vapor Inhalation

Based on a comparison of VOC concentrations detected in *subject property* groundwater to RWQCB Table E-1 ESLs for Evaluation of Potential Vapor Intrusion (December 2013), vapor intrusion may be a potential exposure pathway on the *subject property*. The source of the VOCs is considered to be off-site, as presented in **Section 2.3**. Indoor air sampling was conducted in the electrical room of the *subject property* building on July 7, 2009, to confirm whether the tar-like substance presented a vapor inhalation hazard (GeoCon, September 14, 2009). One (1) indoor air sample was collected over an eight (8) hour time period. The air sample was analyzed for VOCs, PAHs, naphthalene, PCBs, and select metals (cadmium, chromium, lead, nickel, and zinc). Sample analyses were selected based on results of the 2008 GEI sampling of the tar-like substance, to determine whether any of the constituents present in the tar-like substance were migrating as vapors into the air. PCE was not detected in the air sample. Acetone was detected in the indoor air sample at a concentration of 24 micrograms per cubic meter ($\mu g/m^3$), well below the Table E-3 RWQCB ESL for Ambient and Indoor Air Screening Levels of 140,000 $\mu g/m^3$. Low levels of other VOCs, including toluene, ethylbenzene, xylenes, trimethylbenzenes, and 1,1,1-trichloroethane, were also detected in the air sample at levels well below the Table E-3 RWQCB ESLs. PAHs, naphthalene, PCBs, and metals were not detected above method detection limits in the indoor air sample.

3.0 REMOVAL ACTION OBJECTIVES AND GOALS

Site characterization and risk assessment have revealed the presence of COCs in soil and groundwater at the *subject property*. Removal Action Objectives (RAOs) have been developed based upon the current environmental conditions and reasonably anticipated future uses of the *subject property*. Based on the RAOs, removal action goals were developed that establish specific concentrations of chemicals in soil that are protective of both human health and the environment. Specific removal action goals have been developed for the *subject property* from information obtained in investigations at the *subject property*, and risk management decisions based upon the current and proposed future use of the *subject property*. Information used to develop the removal action goals included laboratory analytical results, hydrogeologic data, and a Tier 1 risk assessment.

In addition, a review of pertinent laws, regulations, and other criteria was performed to identify applicable or relevant and appropriate requirements (ARARs) and other criteria to be considered for remediating the *subject property*.

RAOs, ARARs and removal action goals for the *subject property* are presented below.

3.1 Removal Action Objectives

RAOs have been established that are protective of human health and the environment and reduce the potential for exposure to the COCs in soil that may be encountered at the *subject property*. RAOs were not established for COCs in groundwater because the source of the COCs does not appear to be on the *subject property*. The RAOs for soil are presented below.

- Minimize or eliminate potential exposure of humans to the tar-like substance present on the *subject property* through any potential contact.

- Minimize or eliminate potential exposure of humans to COCs (TPHd, TPHmo and PCB-1260) in soil, through any potential contact.

- Reduce the human health-based risks associated with onsite contamination in soil to a level that is acceptable for commercial/industrial land use.

3.2 Applicable or Relevant and Appropriate Requirements (ARARs)

Applicable or relevant and appropriate requirements (ARARs) are federal and state environmental statutes, regulations, and standards. Applicable requirements are federal or state laws or regulations that specifically address a hazardous substance, pollutant, contaminant, removal action, or location. Relevant and appropriate requirements that, while not "applicable," address problems or situations sufficiently similar to those encountered that their use is well suited to the particular site. State requirements are ARARs only if they are more stringent than federal requirements.

In addition to ARARs, this analysis includes an evaluation of To-Be-Considered criteria (TBCs). TBCs are advisories, criteria, or guidance that may be considered for a particular action or specific issue, as appropriate. TBCs are not ARARs because they are neither promulgated nor enforceable.

The ARARs or TBCs may be: 1) chemical; 2) location; or 3) activity specific. Chemical-specific ARARs or TBCs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in, or discharged to, the environment. Location-specific ARARs or TBCs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Action-specific ARARs or TBCs are usually technology- or activity-based requirements or limitations on actions or conditions involving specific chemicals of concern.

A summary of the ARARs and TBCs is presented in **Table 5**.

3.3 Removal Action Goals

Risk-based removal action goals for COCs in soil are presented in **Table B** below. There are no removal action goals for groundwater as stated in **Section 3.1** above. The removal action goals for COCs in soil are based upon residential (unrestricted) use CHHSLs, where established, and residential ESLs where CHHSLs have not been established.

Table B. COC Removal Action Goals for Soil

COC	Removal Goal	Source
TPHd	100 mg/kg	RWQCB Table A-1 ESL (residential land use)
TPHmo	100 mg/kg	RWQCB Table A-1 ESL (residential land use)
PCB-1260	89 μg/kg	OEHHA CHHSL (residential land use)

4.0 EVALUATION OF REMOVAL ACTION ALTERNATIVES

The purpose of this Section of the RAW is to identify and screen possible removal action alternatives that may best achieve the RAOs discussed in **Section 3.0**. The removal action alternatives were screened and evaluated on the basis of their effectiveness, ease of implementation, and cost.

4.1 Identification of Removal Action Alternatives

In order to address elevated levels of extractable petroleum hydrocarbons and PCB-1260 in soil, the following removal action alternatives have been identified and evaluated.

- Alternative 1 – no further action other than monitoring and cleaning of the tar-like substance collection sump.
- Alternative 2 – soil excavation and off-site disposal.
- Alternative 3 – institutional controls, and operation and maintenance.

4.1.1 Alternative 1 – No Further Action (NFA)

The NFA alternative would not include any institutional controls or remedial actions, other than annual monitoring and cleaning of the existing collection sump for the black tar-like substance.

4.1.2 Alternative 2 – Soil Excavation and Off-Site Disposal

The soil excavation/off-site disposal alternative would consist of feasibly removing and transporting the tar-like substance and impacted soil to an appropriate, permitted off-site facility for disposal. Excavation involves the use of backhoes and/or excavators, loaders and/or other appropriate equipment. The majority of soil that would be targeted for removal to meet the removal action goals is located beneath the building on the *subject property* (**Figure 13**). Thus, equipment would be required to remove large sections of the floor and concrete slab of the building, and excavation equipment would need to fit inside the space. Workers would be required to use personal protective equipment to reduce exposure to COCs. Sloping excavation sidewalls may result in increased volume of soil requiring excavation. Confirmation soil sampling and analysis would be conducted to verify that cleanup criteria were met at the excavation bottom and perimeter. Excavation may require soil stockpiling, prior to loading into trucks for offsite disposal.

To achieve the removal action goals, soil beneath the *subject property* building in the vicinity of borings B-9, B-11, B-12, B-13, B-14, WSP-1 and WSP-3, and east of the building in the vicinity of borings B-5, B-6, B-7, would require removal to depths ranging up to 13.5 feet (see **Figure 13**). The volume of soil removed would be approximately 1,900 cubic yards (2,600 tons), assuming the excavation does not need to be expanded based on confirmation sample results.

In order to meet unrestricted use criteria, removal action goals for this alternative would be to residential screening levels. Removal action goals for Alternative 2 are provided in **Table C** below.

Table C. COC Removal Action Goals for Soil in Alternative 2

COC	Removal Goal	Source
TPHd	100 mg/kg	RWQCB Table A-1 ESL (residential land use)
TPHmo	100 mg/kg	RWQCB Table A-1 ESL (residential land use)
PCB-1260	89 μg/kg	OEHHA CHHSL (residential land use)

4.1.3 Alternative 3 – Institutional Controls, Operation and Maintenance

Alternative 3 would not involve any soil remedial actions. Onsite COCs above cleanup goals are currently capped with the existing cover (building floors, pavement, etc.). Alternative 3 would consist of institutional controls and operation and maintenance to limit exposure to COCs. Institutional control would involve the development of and compliance with a recorded land use covenant, which will limit site use to commercial/industrial and prohibit sensitive land uses, and would include the requirement for implementation of an Operation and Maintenance Plan in the event of any future major construction that would involve the potential exposure to the tar-like substance and/or COCs in soil. Operation and maintenance activities would involve annual cleaning of the tar-like substance collection sump, and proper offsite disposal of the tar-like substance. Monitoring would include: periodic monitoring of the existing groundwater monitoring well (MW-1) in order to confirm that COCs in soil beneath the *subject property* remain of limited mobility, and impacts to groundwater remain stable or decrease over time; and periodic visual inspection of the *subject property* to look for visible evidence of the tar-like substance on any floor surfaces, and if observed, prompt and proper removal and disposal of the tar-like substance.

4.2 Evaluation Criteria

Each removal action alternative was independently analyzed without consideration to the other alternatives. Each of the removal action alternatives is screened based on effectiveness, implementation, and cost.

In the effectiveness evaluation, the following factors are considered:

- *Overall Protection of Human Health and the Environment* - this criterion evaluates whether the removal action alternative provides adequate protection to human health and the environment, and is able to meet the RAOs.
- *Compliance with ARARs/TBCs* - this criterion evaluates the ability of the removal action alternative to comply with ARARs.
- *Short-Term Effectiveness* - this criterion evaluates the effects of the removal action alternative during the construction and implementation phases until removal action objectives are met, and accounts for the protection of workers and the community during removal activities and environmental impacts from implementing the removal action.
- *Long-Term Effectiveness and Permanence* - This criterion addresses issues related to the management of residual risk remaining on site after a removal action has been performed and has met it objectives. The primary focus is on the controls that may be required to manage risk posed by treatment residuals and/or untreated wastes.
- *Reduction of Toxicity, Mobility, or Volume* - This criterion evaluates whether the removal technology employed results in significant reduction in toxicity, mobility, or volume of the hazardous substances.

The implementation criterion evaluates the technical and administrative feasibility of implementing the removal action alternative, as well as the availability of the necessary equipment and services. This includes the ability to design and perform a removal action alternative, the ability to obtain services and equipment, the ability to monitor the performance and effectiveness of technologies, the ability to obtain necessary permits and approvals from agencies, and likely acceptance by the State and the community.

The cost criterion assesses the relative cost of each removal action alternative based on estimated fixed capital for construction, and initial implementation and ongoing operational and maintenance costs. The actual costs will depend on true labor and material cost, competitive market conditions, final project scope, and the implementation schedule.

4.3 Analysis of Removal Action Alternatives

4.3.1 Alternative 1 – No Further Action (NFA)

Effectiveness

Overall Protection of Human Health and the Environment – Alternative 1 would not protect human health and the environment and would not meet the RAOs.

Compliance with ARARs/TBCs – Alternative 1 would not comply with ARARs and TBCs.

Short-Term Effectiveness – does not apply to Alternative 1.

Long-Term Effectiveness and Permanence – does not apply to Alternative 1.

Reduction of Toxicity, Mobility, or Volume – Alternative 1 would do little to reduce the toxicity or mobility of the tar-like substance and the associated soil COC impacts, as natural degradation of the tar-like substance is unlikely. Alternative 1 would have some positive impact on reducing the volume of the tar-like substance and the associated soil COC impacts due to the fact that there would be some removal of the tar-like substance via the collection trench/sump and periodic cleaning of the sump. Though Alternative 1 would have no effect on the toxicity or mobility of the tar-like substance and associated COC impacted soil, the potential risks to human health and the environment if the tar-like substance and impacted soils are left in place has been determined to be low (see **Section 2.7)**. Based on the concentrations of COCs observed in soils in the source area of the tar-like substance, and the concentrations of soil COCs observed in groundwater, the mobility of the contamination associated with the tar-like substance beneath the *subject property* is also low.

Implementation
Alternative 1 would not require implementing any measures at the site, other than annual monitoring and cleaning of the tar-like substance collection sump located in the electrical panel room of the *subject property* building.

Cost
GEI estimates the annual monitoring of the tar-like substance collection sump, cleaning of the sump, and proper offsite disposal of the tar-like substance to be $5,000 per year.

4.3.2 Alternative 2 – Soil Excavation and Offsite Disposal

Effectiveness
Overall Protection of Human Health and the Environment – Alternative 2 would protect human health and the environment and meet all of the RAOs, with the exception of the minimization or elimination of potential exposure of humans to COCs in groundwater through any potential contact.

Compliance with ARARs/TBCs – Alternative 2 would comply with ARARs and TBCs.

Short-Term Effectiveness – Alternative 2 would be effective in the short term if appropriate health and safety measures are employed (e.g. personal protective equipment, engineering controls, dust suppression, and traffic and equipment operating safety procedures) during the soil removal, loading and transport activities to protect contractors, on-site workers and the public.

Long-Term Effectiveness and Permanence – Alternative 2 would have long-term effectiveness and permanence.

Reduction of Toxicity, Mobility, or Volume – Alternative 2 would have a significant positive impact on reducing the volume of the tar-like substance and the associated COC soil impacts.

<u>Implementation</u>
Excavation/off-site disposal is a well-proven, readily implementable technology that is a common method for mitigating contaminated sites where circumstances allow. It is a relatively simple process, with proven results. Equipment and labor required to implement this alternative are uncomplicated and readily available. The shallow depths of the identified contamination make excavation implementable. However, the location of the main mass of the tar-like substance and associated COC soil impacts beneath the building on the *subject property* makes implementation of excavation much more challenging than at an outdoor excavation site, and increases the risk to the health and safety of workers performing the excavation, and to the integrity of the building. The excavation walls will be shored for contractor and building safety purposes. In addition, several building occupants would have to be relocated during excavation activities.

<u>Cost</u>
The estimated cost for excavation, transportation, and disposal of the tar-like substance and impacted soils (COCs exceeding Removal Action Goal concentrations) is approximately $980,000. This estimate includes: permitting; building preparation (engineering, shoring, temporary utility relocation, demolition of interior walls); soil excavation, loading, stockpiling, transportation and disposal; confirmation sampling; building and utility restoration; and reporting. The estimate does not include outside costs to the building owner, including tenant relocation and lost rental income. The total estimated cost of Alternative 2 is based upon the removal and offsite disposal of approximately 1400 tons of impacted soil from approximately 7 to 13 feet bts in an area of approximately 4300 square feet **(Figure 13)**. Soil from the top seven (7) feet bts would be inspected while being stockpiled onsite and re-used to backfill the excavation

as appropriate. This assumes that insignificant volumes of the tar-like substance will be encountered in this soil. A detailed cost analysis is provided in **Appendix C.**

4.3.3 Alternative 3 – Institutional Controls, Operation and Maintenance

Effectiveness

Overall Protection of Human Health and the Environment – Alternative 3 would protect human health and the environment and meet all of the RAOs, with the exception of the minimization or elimination of potential exposure of humans to COCs in groundwater through any potential contact.

Compliance with ARARs/TBCs – Alternative 3 would fully comply with ARARs and TBCs.

Short-Term Effectiveness – Alternative 3 would be effective in the short term.

Long-Term Effectiveness and Permanence – Alternative 3 would have long-term effectiveness and permanence. The institutional controls would restrict property usage; as the property could not be used for a residence, school for anyone under the age of 21, daycare, or hospital.

Reduction of Toxicity, Mobility, or Volume – Alternative 3 would have some positive impact on reducing the volume of the tar-like substance and the associated soil COC impacts due to the fact that there would be some removal of the tar-like substance via the collection trench/sump and periodic cleaning of the sump. Though Alternative 3 would have no effect on the toxicity or mobility of the tar-like substance and associated COC impacted soil, the potential risks to human health and the environment if the tar-like substance and impacted soils are left in place has been determined to be low (see **Section 2.7)**. Based on the concentrations of COCs observed in soils in the source area of the tar-like substance and the concentrations of soil COCs observed in groundwater, the mobility of the contamination associated with the tar-like substance beneath the *subject property* is also low.

Implementation

Implementation of the institutional controls and operation and maintenance programs could be easily completed, maintained and enforced. In addition, leaving the tar-like substance and impacted soils in place prevents potential health and safety risks to workers who may be exposed to the COCs in soil during soil removal activities, and the risk to the integrity of the *subject property* building during soil removal activities.

Cost
GEI estimates the cost of the development and recording of a land use covenant with an Operation and Maintenance Plan to be $10,000. GEI estimates the maintenance of the tar-like substance collection sump, periodically cleaning of the collection sump, and proper offsite disposal of the tar-like substance to be $5,000 per year. The estimated cost of semi-annual monitoring of groundwater monitoring well MW-1, semi-annual visual inspections of the *subject property* to look for visible evidence of the tar-like substance on any floor surfaces and annual reporting is $7,000 per year. GEI estimates the prompt and proper removal and disposal of any observed tar-like substance on surfaces to be $1,000 per year. Thus, in the initial five (5) year period, GEI estimates the total cost of Alternative 3 to be $75,000. GEI expects that after the initial five (5) year period, annual costs will decrease as the need for site management and monitoring should decrease. The net present value of thirty (30) years of Operation and Maintenance is therefore estimated to be approximately $325,000. A detailed cost analysis is provided in **Appendix C**.

4.4 Recommended Removal Action Alternative

Based on comparison of the effectiveness, implementability, and cost of the three (3) removal action alternatives, Alternative 3 is the preferred and recommended removal action for the *subject property*, as it cost-effectively achieves all of the RAOs.

5.0 REMOVAL ACTION IMPLEMENTATION

Implementation of the selected removal action will be carried out as described below.

5.1 Institutional Controls

GEI will prepare a draft Operation and Maintenance Plan specific to the *subject property* using applicable DTSC guidance. DTSC will prepare a draft Land Use Restriction specific to the *subject property*. The draft Operation and Maintenance Plan will be submitted to DTSC for comment. DTSC's comments will be incorporated into a final Operation and Maintenance Plan for signatures by Tanklage and DTSC, and then the signed Land Use Restriction referring to and appending the Operation and Maintenance Plan will be recorded by Tanklage with the San Mateo County Recorder.

At the least, the land use covenant will ensure that:

- the *subject property* will not be used for a residence, hospital, school for persons under 21 years of age, or a day care center for children;

- activities that may disturb the Cap (e.g., excavation, grading, removal, trenching, filling, earth movement, or mining) shall not be permitted on the Capped *subject property* without a Soil Management Plan and prior written approval by DTSC;
- all uses and development of the Capped *subject property* shall preserve the integrity or effectiveness of the Cap;
- all uses shall preserve the physical accessibility to and integrity of the groundwater monitoring system;
- the Cap shall not be altered without prior written approval by DTSC; and
- drilling for any water, oil or gas will not be permitted without prior written approval by DTSC.

5.2 Operation and Maintenance

GEI will develop a written protocol (Operation and Maintenance Plan) for maintenance of the tar-like substance collection sump, periodically cleaning of the tar-like substance collection sump, and proper offsite disposal of the tar-like substance. Tanklage will then obtain bids from qualified contractors, and work with the selected contractor to perform the operation and maintenance tasks. An Operation and Maintenance Agreement will be drafted by DTSC, to be signed by Tanklage and DTSC.

<u>Visual Inspections</u>

Tanklage will perform and document visual inspections of the *subject property* on a quarterly basis to look for visible evidence of the tar-like substance on any floor surfaces, and if observed, direct the operation and maintenance contractor to perform prompt and proper removal and disposal of the tar-like substance.

<u>Groundwater Monitoring</u>

Based upon summary findings for the initial year of quarterly monitoring and sampling of MW-1 (GEI, April 24, 2012), GEI recommends the following:

- monitoring and sampling frequency for MW-1 be reduced to semi-annual (i.e., two [2] times annually) for the next five (5) years for VOCs;
- monitoring and sampling frequency for MW-1 be reduced to annual (i.e., one [1] time annually) for the next five (5) years for TPHg, TPHd, TPHmo, PAHs, and PCBs;
- eliminating analyses for TDS and metals; and
- eliminating the collection of duplicate samples.

The monitoring protocol will adhere to the protocol established in the *Groundwater Monitoring Well Installation Work Plan (GEI, November 29, 2011)*, including the appended *Quality Assurance Project Plan* and *Health and Safety Plan*.

5.3 Reporting

An annual *Operation and Maintenance Report* will be prepared and submitted to DTSC which will include descriptions and results of site institutional control, management and monitoring activities. In addition, every five years, a *Five Year Review Report* will be prepared and submitted to DTSC in which the effectiveness, implementation and cost of the removal actions will be evaluated, and any recommendations for improvement provided.

6.0 PUBLIC PARTICIPATION

The public participation requirements for the RAW process include: (1) the development of a community profile, (2) publishing a notice of the availability of the draft *RAW* for a 30-day public review and comment, (3) making the draft RAW and other supporting documents available at DTSC's office and in the local information repository, and (4) responding to public comments received on the draft *RAW* and CEQA documents.

Once the 30-day public comment period is completed, DTSC will review and respond to the comments received. The draft RAW will be revised, as necessary, to address the comments received. If significant changes to the draft RAW are required, the draft RAW will be revised and be resubmitted for public review and comment. If significant changes are not required to the draft *RAW*, the draft *RAW* will be finalized and DTSC will approve the final RAW for implementation.

7.0 CEQA DOCUMENTATION

The California Environmental Quality Act (CEQA), modeled after the National Environmental Policy Act (NEPA) of 1969, was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. It is an administrative procedure to ensure comprehensive environmental review of cumulative impacts prior to project approval. It has no agency enforcement tool, but allows challenge in courts.

A CEQA project is a project that has a potential for resulting in a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. CEQA applies to all discretionary projects proposed to be carried out or approved by California public agencies, unless an exemption applies.

DTSC will file a Notice of Exemption at the time of approval of the Final RAW. A draft version of the Notice of Exemption is available in **Appendix D** of this document.

8.0 REFERENCES

AES Construction. *Report of Findings Underground Storage Tank Removal, Kelly Moore Paint Co., 1015 Commercial Street, San Carlos, California*. August 1996.

Aquifer Sciences, Inc. *Phase I Hydrogeologic Investigation Report, 977 Bransten Road, San Carlos, California*. May 19, 1989.

BlaineTech Services. *Field Sampling at Kelly Moore, 919 Old County Road, San Carlos, CA on February 11, 1986*. February 20, 1986.

Brabb, E.E., R.W. Graymer, and D.L. Jones. *Geology of the onshore part of San Mateo County, California: A digital database.* USGS Open File Report 98-137.

Catney, Philip; Nigel Lawson, Monica Palaseanu-Lovejoy, Sally Shaw, Colin Smith, Tom Stafford, Simon Talbot, and Xu Hao. *Acid tar lagoons: risks and sustainable remediation in an urban context*. March 1, 2005.

Conor Pacific/EFW. *Subsurface Characterization Report for the Former California Oil Recyclers Inc. Site, 977 Bransten Road, San Carlos, California.* July 14, 2000.

DTSC. *Representative Sampling of Groundwater for Hazardous Substances, Guidance Manual for Groundwater Investigations.* July, 1995. Revised February, 2008.

DTSC. Letter re: *Well Installation Work Plan, Dated November 29, 2011, Tanklage Square, 837 Industrial Road, San Carlos, California*. December 21, 2011.

Geocon Environmental Consultants (GeoCon). *Indoor Air Sampling Report, 837 Industrial Road, San Carlos, California*. September 14, 2009.

Green Environment inc. (GEI). *Letter Report to Tanklage Properties, Inc. 837 Industrial Road, San Carlos, California*. January 8, 2009.

Green Environment inc. (GEI). *Expanded Site Investigation, 1007 and 1011 Bransten Road, San Carlos, California.* July 31, 2009.

Green Environment inc. (GEI). *Expanded Site Investigation Report, 837 Industrial Road, San Carlos, California.* March 2, 2011.

Green Environment inc. (GEI). *Groundwater Monitoring Well Installation Work Plan, 837 Industrial Road, Tanklage Square, San Carlos, California.* November 29, 2011.
Purcell, Rhoades & Associates. *Soil Investigation, Intersection of Industrial Road and Bransten Road, San Carlos, California*. March 7, 1977.

Stantec. *Combined 2010 Annual Progress Report and Monitoring Report.* August 16, 2010.

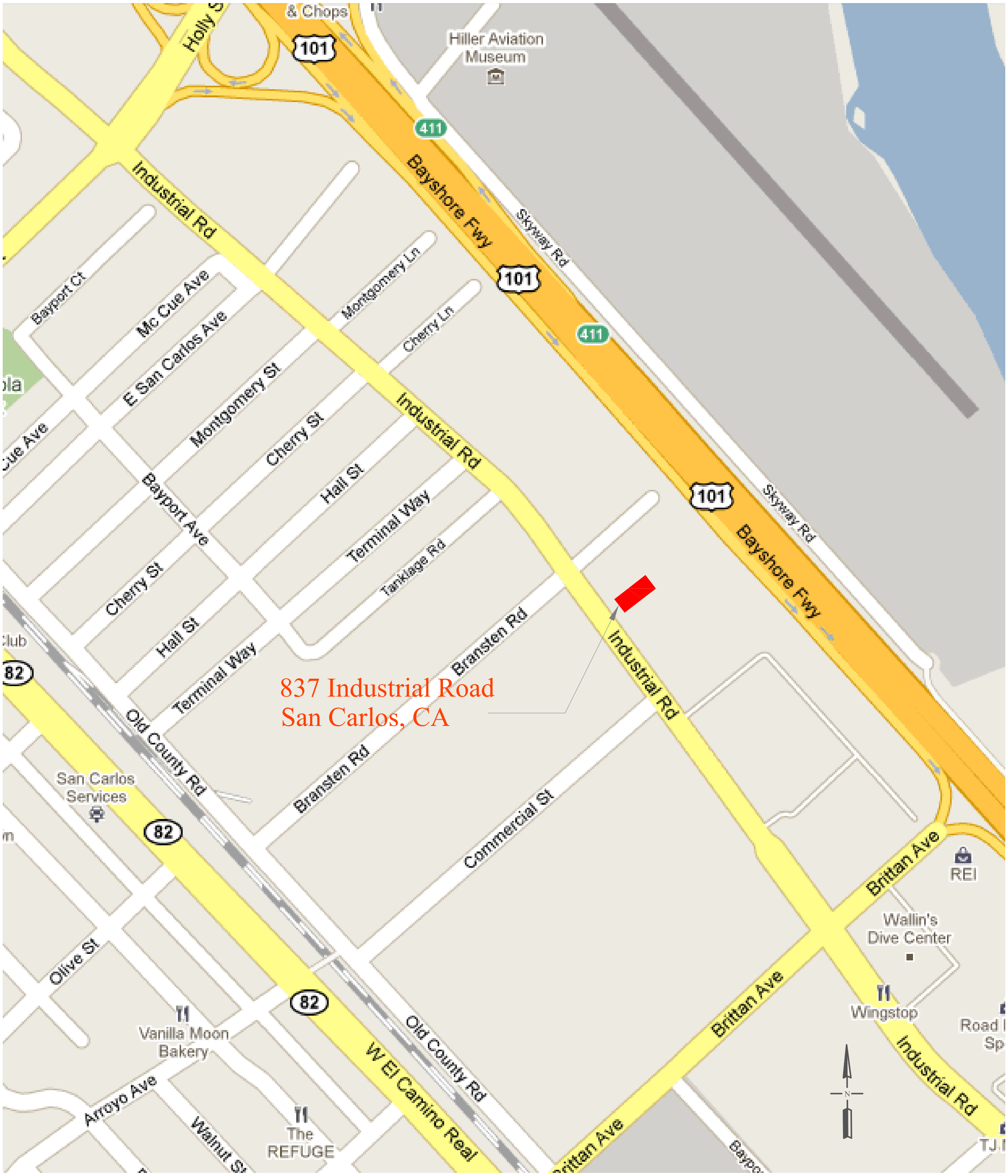
Watson Consulting/Georestoration Inc. *Semiannual Groundwater Monitoring Report Third and Fourth Quarter 2012 Sampling Events, G-C Lubricants, 977 Bransten Road, San Carlos, California CAD056670029*. March 6, 2013.

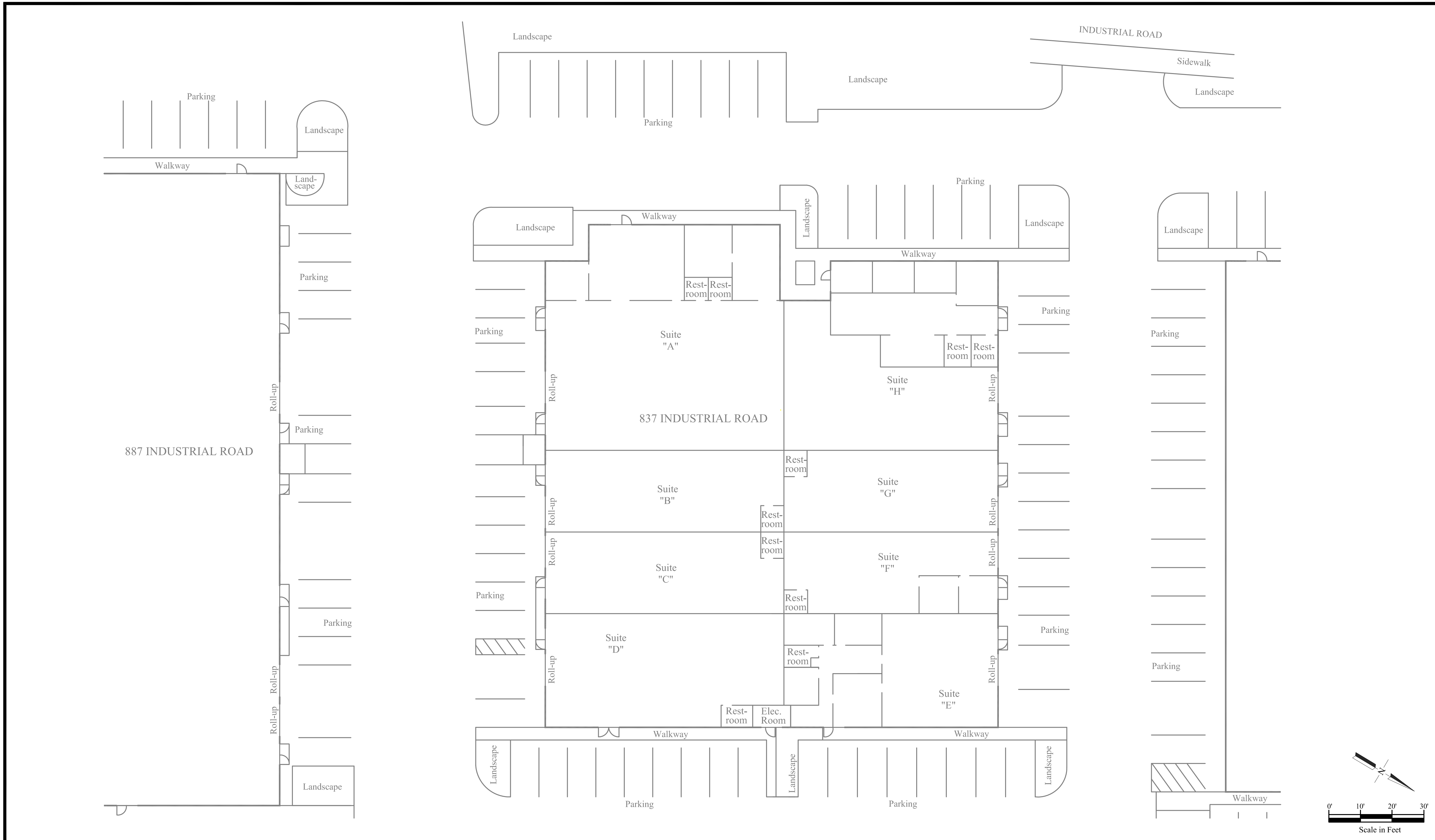
WSP Environment & Energy. *Soil and Groundwater Investigation Work Plan, Tanklage Construction Co., Inc., 837 Industrial Road, San Carlos, California Final.* May 21, 2010. Revised July 21, 2010.

FIGURES

Vicinity Map

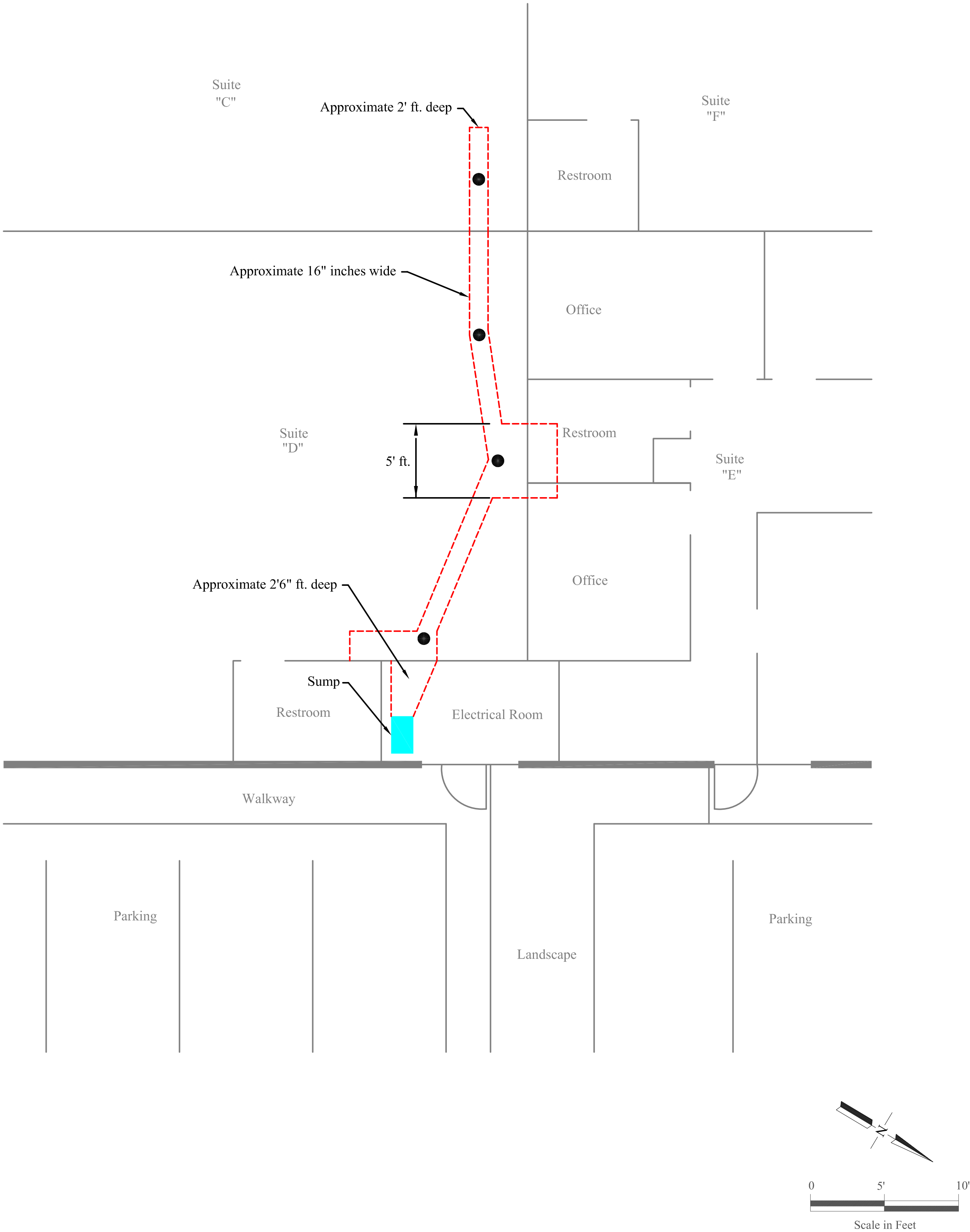
Figure 1





Legend:	Drawing Name: SITE PLAN	Drawn by:	KA
		Date:	09/13/2013
		Scale:	1" = 30'-0"
	Address: 837 Industrial Road San Carlos, California	Job #	B10655
		Figure #	FIGURE 2

Green Environment inc.
www.greenenvironment.com

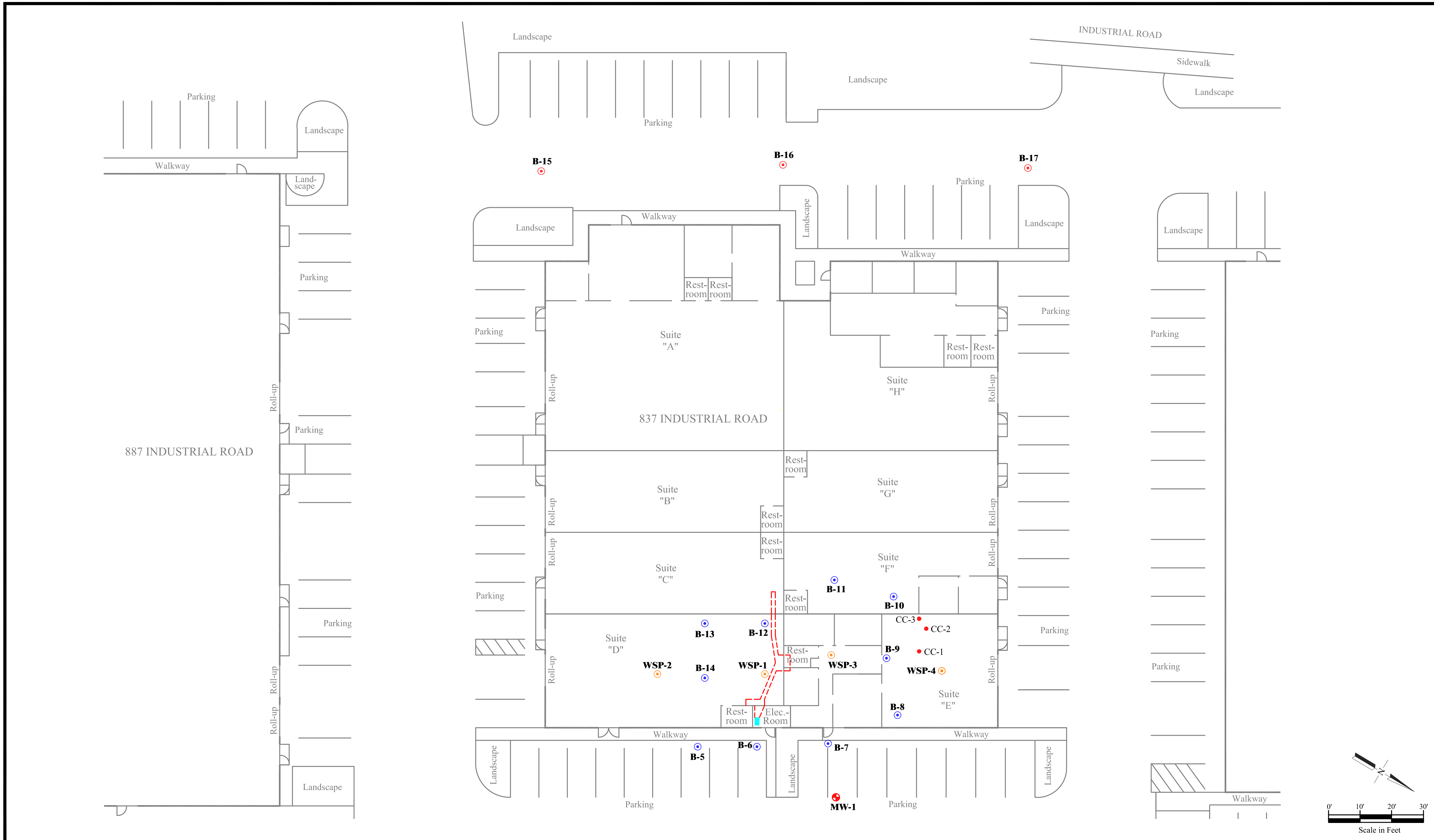


Note:
- Metal access plate to trench
- Concrete surface trench
- Concrete sump box

GEI Green Environment inc
www.greenenvironment.com

Drawing Name:	DIAGRAM OF TRENCH AND SUMP FOR TAR-LIKE SUBSTANCE COLLECTION
Address:	837 Industrial Road San Carlos, California

Drawn by:	KA
Date:	09/13/2013
Scale:	1" = 10'
Job #	B10655
Figure #	FIGURE 3



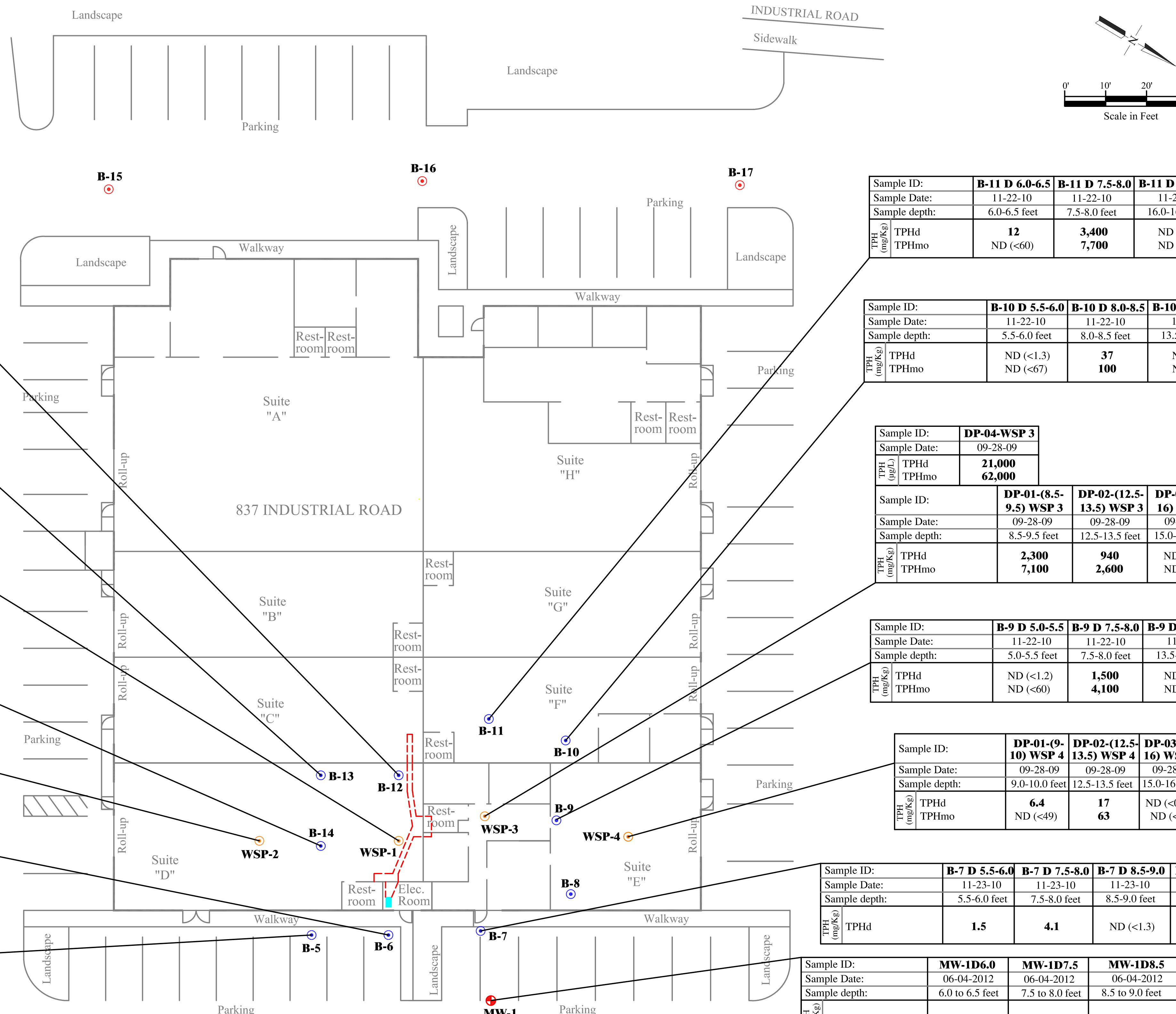
Legend:

- MW-1 Groundwater monitoring well (GEI, June 2012)
- WSP-1 Soil boring (WSP, 09/28/09)
- B-5 Soil boring (GEI, 11/22/10, 11/23/10)
- B-15 Soil boring (GEI, 01/20/11)
- CC-1 Exploratory concrete cores
- Concrete surface trench
- Concrete sump box

GEI Green Environment inc. www.greenenvironment.com

Drawing Name:	SITE PLAN WITH SAMPLE AND CORE LOCATIONS
Address:	837 Industrial Road San Carlos, California

Drawn by:	KA
Date:	09/13/2013
Scale:	1" = 30'-0"
Job #	B10655
Figure #	FIGURE 4



Sample ID:	B-12 D 5.5-6.0	B-12 D 8.0-8.5	B-12 D 13.5-14.0
Sample Date:	11-23-10	11-23-10	11-23-10
Sample depth:	5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
TPH (mg/Kg) TPHd	ND (<1.1)	**1,500**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<57)	**2,700**	ND (<60)

Sample ID:	B-13 D 5.5-6.0	B-13 D 8.0-8.5 B-3 D 8.0-8.5	B-13 D 13.5-14.0
Sample Date:	11-23-10	11-23-10	11-23-10
Sample depth:	5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
TPH (mg/Kg) TPHd	ND (1.1)	**74**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<55)	**150**	ND (<59)

B-3 D 8.0-8.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:	DP-01(6.5-7.5)-WSP 1	DP-02(12.5-13.5)-WSP 1	DP-03(15-16)-WSP 1
Sample Date:	09-28-09	09-28-09	09-28-09
Sample depth:	6.5-7.5 feet	12.5-13.5 feet	15.0-16.0 feet
TPH (mg/Kg) TPHd	**54**	**4,800**	ND (<1.0)
TPH (mg/Kg) TPHmo	**150**	**11,000**	ND (<50)

Sample ID:	B-14 D 5.5-6.0 B-3 D 5.5-6.0	B-14 D 8.0-8.5	B-14 D 10-10.5 B-3 D 10.0-10.5	B-14 D 14.0-14.5
Sample Date:	11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:	5.5-6.0 feet	8.0-8.5 feet	10.0-10.5 feet	14.0-14.5 feet
TPH (mg/Kg) TPHd	ND (<1.3)	**26**	**1.6**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<64)	**68**	ND (<63)	ND (<58)

B-3 D 5.5-6.0 is a duplicate of B-14 D 5.5-6.0, highest concentrations are reported.
B-3 D 10.0-10.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:	DP-03-(12.5-13.5) WSP 2
Sample Date:	09-28-09
Sample depth:	12.5-13.5 feet
TPH (mg/Kg) TPHd	**110**
TPH (mg/Kg) TPHmo	**300**

Sample ID:	B-6 D 3.5-4.0	B-6 D 5.5-6.0	B-6 D 7.5-8.0	B-6 D 12.5-13.0
Sample Date:	11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:	3.5-4.0 feet	5.5-6.0 feet	7.5-8.0 feet	12.5-13.0 feet
TPH (mg/Kg) TPHd	**2.3**	ND (<1.4)	**5,400**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<64)	ND (<72)	**11,000**	ND (<58)

Sample ID:	B-5 D 5.5-6.0	B-5 D 7.5-8.0	B-5 D 16-16.5
Sample Date:	11-22-10	11-22-10	11-22-10
Sample depth:	5.5-6.0 feet	7.5-8.0 feet	16.0-16.5 feet
TPH (mg/Kg) TPHd	ND (<1.3)	**3,700**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<67)	**11,000**	ND (<58)

Sample ID:	B-11 D 6.0-6.5	B-11 D 7.5-8.0	B-11 D 16.0-16.5
Sample Date:	11-22-10	11-22-10	11-22-10
Sample depth:	6.0-6.5 feet	7.5-8.0 feet	16.0-16.5 feet
TPH (mg/Kg) TPHd	**12**	**3,400**	ND (<1.1)
TPH (mg/Kg) TPHmo	ND (<60)	**7,700**	ND (<56)

Sample ID:	B-10 D 5.5-6.0	B-10 D 8.0-8.5	B-10 D 13.5-14.0
Sample Date:	11-22-10	11-22-10	11-22-10
Sample depth:	5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
TPH (mg/Kg) TPHd	ND (<1.3)	**37**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<67)	**100**	ND (<58)

Sample ID:	DP-04-WSP 3
Sample Date:	09-28-09
TPH (µg/L) TPHd	**21,000**
TPH (µg/L) TPHmo	**62,000**

Sample ID:	DP-01-(8.5-9.5) WSP 3	DP-02-(12.5-13.5) WSP 3	DP-03-(15-16) WSP 3
Sample Date:	09-28-09	09-28-09	09-28-09
Sample depth:	8.5-9.5 feet	12.5-13.5 feet	15.0-16.0 feet
TPH (mg/Kg) TPHd	**2,300**	**940**	ND (<1.0)
TPH (mg/Kg) TPHmo	**7,100**	**2,600**	ND (<50)

Sample ID:	B-9 D 5.0-5.5	B-9 D 7.5-8.0	B-9 D 13.5-14.0
Sample Date:	11-22-10	11-22-10	11-22-10
Sample depth:	5.0-5.5 feet	7.5-8.0 feet	13.5-14.0 feet
TPH (mg/Kg) TPHd	ND (<1.2)	**1,500**	ND (<1.2)
TPH (mg/Kg) TPHmo	ND (<60)	**4,100**	ND (<59)

Sample ID:	DP-01-(9-10) WSP 4	DP-02-(12.5-13.5) WSP 4	DP-03-(15-16) WSP 4
Sample Date:	09-28-09	09-28-09	09-28-09
Sample depth:	9.0-10.0 feet	12.5-13.5 feet	15.0-16.0 feet
TPH (mg/Kg) TPHd	**6.4**	**17**	ND (<0.99)
TPH (mg/Kg) TPHmo	ND (<49)	**63**	ND (<49)

Sample ID:	B-7 D 5.5-6.0	B-7 D 7.5-8.0	B-7 D 8.5-9.0	B-7 D 11.5-12.0
Sample Date:	11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:	5.5-6.0 feet	7.5-8.0 feet	8.5-9.0 feet	11.5-12.0 feet
TPH (mg/Kg) TPHd	**1.5**	**4.1**	ND (<1.3)	ND (<1.2)

Sample ID:	MW-1D6.0	MW-1D7.5	MW-1D8.5	MW-1D20
Sample Date:	06-04-2012	06-04-2012	06-04-2012	06-04-2012
Sample depth:	6.0 to 6.5 feet	7.5 to 8.0 feet	8.5 to 9.0 feet	8.0 to 8.5 feet
TPH (mg/Kg) TPHd	**3.5**	**18**	**1.8**	**5.5**

MW-1D20 is a duplicate of MW-1D7.5, highest concentrations are reported.

Legend:

MW-1	Groundwater monitoring well (GEI, June 2012)
WSP-1	Soil boring (WSP, 09/28/09)
B-5	Soil boring (GEI, 11/22/10, 11/23/10)
B-15	Soil boring (GEI, 01/20/11)
	Concrete surface trench
	Concrete sump box

ND (<2.0) Not detected at or above the laboratory reporting limit.
Only detected compounds shown on figure, highest concentrations are reported.

TPH	Total extractable petroleum hydrocarbon
TPHd	Diesel Range Organics
TPHmo	Motor Oil Range Organics
(µg/L)	Micrograms per liter
(mg/Kg)	Milligrams per kilogram

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name: SOIL AND GROUNDWATER ANALYTICAL RESULTS: EXTRACTABLE PETROLEUM HYDROCARBONS

Address: 837 Industrial Road, San Carlos, California

Drawn by:	KA
Date:	09/13/2013
Scale:	1" = 30'-0"
Job #	B10655
Figure #	FIGURE 5

Sample ID:		B-12 D 5.5-6.0	B-12 D 8.0-8.5	B-12 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
PAHs (ug/Kg)	Phenanthrene	ND (<5.6)	**140**	ND (<5.9)
	Chrysene	ND (<5.6)	**220**	ND (<5.9)
	Fluoranthene	ND (<5.6)	**120**	ND (<5.9)

Sample ID:		DP-01(6.5-7.5)-WSP 1	DP-02(12.5-13.5)-WSP 1	DP-03(15-16)-WSP 1
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		6.5-7.5 feet	12.5-13.5 feet	15.0-16.0 feet
PAHs (ug/Kg)	Phenanthrene	ND (<50)	**1,200**	ND (<5.0)
	Chrysene	**88**	**1,200**	ND (<5.0)
	Benzo[b]fluoranthene	**52**	ND (<720)	ND (<5.0)
PCBs (ug/Kg)	PCB-1260	ND (<50)	**1,500**	ND (<49)

Sample ID:		B-13 D 5.5-6.0	B-13 D 8.0-8.5 B-3 D 8.0-8.5	B-13 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
PCBs (ug/Kg)	PCB-1260	ND (<55)	**38,000**	ND (<60)

B-3 D 8.0-8.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

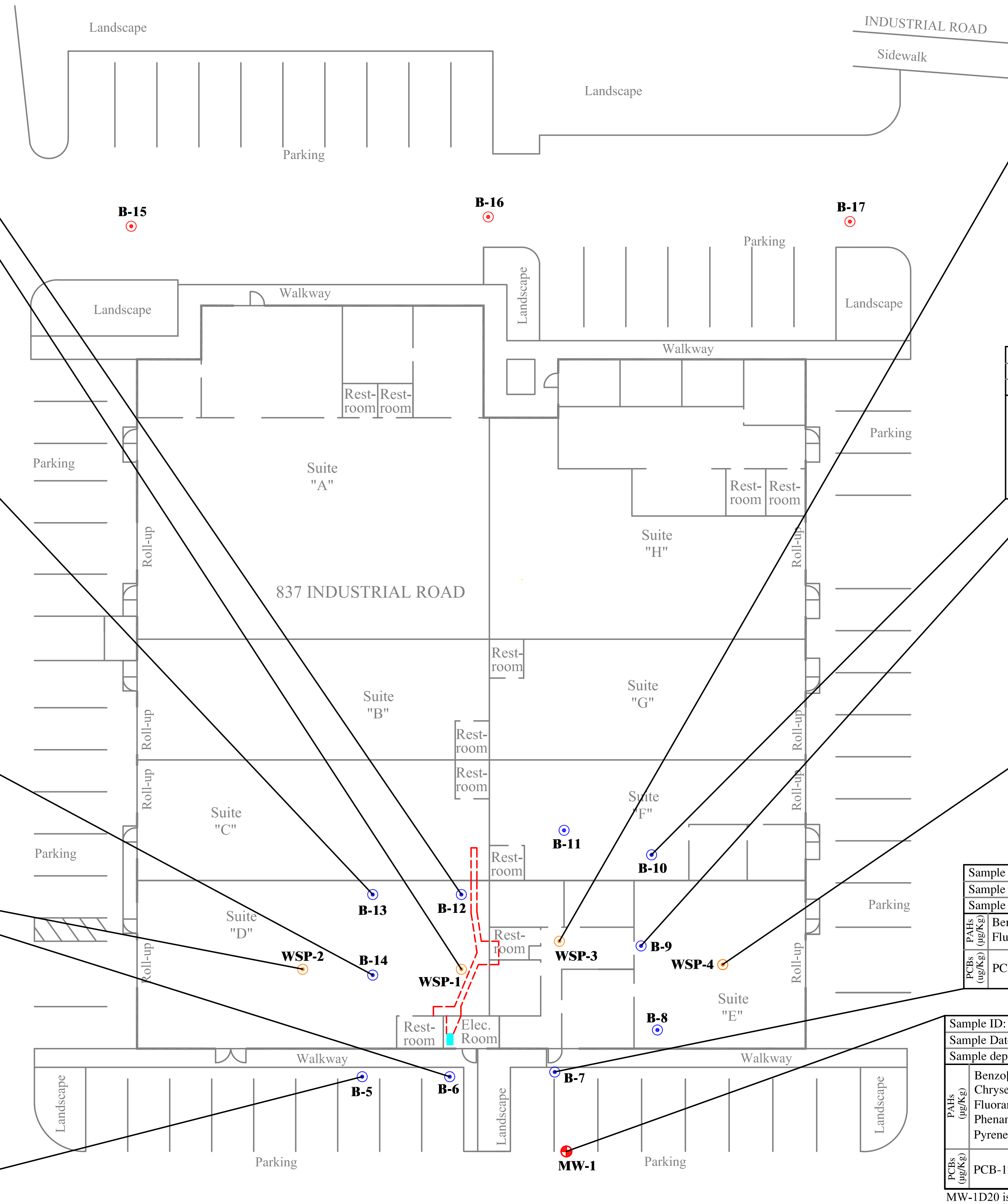
Sample ID:		B-14 D 5.5-6.0 B-3 D 5.5-6.0	B-14 D 8.0-8.5	B-14 D 10-10.5 B-3 D 10.0-10.5	B-14 D 14.0-14.5
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	10.0-10.5 feet	14.0-14.5 feet
PAHs (ug/Kg)	Acenaphthylene	ND (<6.4)	ND (<6.6)	**42**	ND (<5.8)
	Phenanthrene	ND (<6.4)	ND (<6.6)	**54**	ND (<5.8)
	Anthracene	ND (<6.4)	ND (<6.6)	**35**	ND (<5.8)
	Benzo[a]anthracene	ND (<6.4)	ND (<6.6)	**160**	ND (<5.8)
	Chrysene	ND (<6.4)	**12**	**160**	ND (<5.8)
	Benzo[a]pyrene	ND (<6.4)	**13**	**200**	ND (<5.8)
	Benzo[b]fluoranthene	ND (<6.4)	ND (<6.6)	**210**	ND (<5.8)
	Benzo[k]fluoranthene	ND (<6.4)	ND (<6.6)	**83**	ND (<5.8)
	Benzo[g,h,i]perylene	ND (<6.4)	ND (<6.6)	**76**	ND (<5.8)
	Indeno[1,2,3-cd]pyrene	ND (<6.4)	ND (<6.6)	**82**	ND (<5.8)
	Fluoranthene	ND (<6.4)	ND (<6.6)	**180**	ND (<5.8)
	Pyrene	ND (<6.4)	**10**	**180**	ND (<5.8)
	Dibenz(a,h)anthracene	ND (<6.4)	ND (<6.6)	**27**	ND (<5.8)
PCBs (ug/Kg)	PCB-1260	ND (<63)	**770**	ND (<63)	ND (<58)

B-3 D 5.5-6.0 is a duplicate of B-14 D 5.5-6.0, highest concentrations are reported.
B-3 D 10.0-10.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:		DP-03-(12.5-13.5) WSP 2
Sample Date:		09-28-09
Sample depth:		12.5-13.5 feet
PCBs (ug/Kg)	PCB-1260	**1,400**

Sample ID:		B-6 D 3.5-4.0	B-6 D 5.5-6.0	B-6 D 7.5-8.0	B-6 D 12.5-13.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		3.5-4.0 feet	5.5-6.0 feet	7.5-8.0 feet	12.5-13.0 feet
PAHs (ug/Kg)	Chrysene	ND (<6.4)	ND (<7.2)	**430**	ND (<5.7)
	Pyrene	ND (<6.4)	ND (<7.2)	**310**	ND (<5.7)
PCBs (ug/Kg)	PCB-1260	ND (<64)	ND (<73)	**6,700**	ND (<57)

Sample ID:		B-5 D 5.5-6.0	B-5 D 7.5-8.0	B-5 D 16-16.5
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	16.0-16.5 feet
PAHs (ug/Kg)	Chrysene	ND (<6.7)	**140**	ND (<5.8)
	Benzo[a]pyrene	ND (<6.7)	**61**	ND (<5.8)
	Fluoranthene	ND (<6.7)	**69**	ND (<5.8)
	Pyrene	ND (<6.7)	**160**	ND (<5.8)
PCBs (ug/Kg)	PCB-1260	ND (<67)	**44,000**	ND (<58)



Sample ID:		DP-01-(8.5-9.5) WSP 3	DP-02-(12.5-13.5) WSP 3	DP-03-(15-16) WSP 3
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		8.5-9.5 feet	12.5-13.5 feet	15.0-16.0 feet
PAHs (ug/Kg)	Phenanthrene	**2,300**	ND (<250)	ND (<5.0)
	Chrysene	**3,800**	ND (<250)	ND (<5.0)
	Benzo[b]fluoranthene	**1,900**	ND (<250)	ND (<5.0)
	Fluoranthene	**1,900**	ND (<250)	ND (<5.0)
PCBs (ug/Kg)	PCB-1260	**880**	**1,800**	ND (<50)

Sample ID:		B-10 D 5.5-6.0	B-10 D 8.0-8.5	B-10 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
PAHs (ug/Kg)	Naphthalene	ND (<6.6)	**40**	ND (<5.8)
	Phenanthrene	ND (<6.6)	**18**	ND (<5.8)
	Chrysene	ND (<6.6)	**54**	ND (<5.8)
	Benzo[a]pyrene	ND (<6.6)	**35**	ND (<5.8)
	Benzo[b]fluoranthene	ND (<6.6)	**32**	ND (<5.8)
	Fluoranthene	ND (<6.6)	**20**	ND (<5.8)
	Pyrene	ND (<6.6)	**26**	ND (<5.8)

Sample ID:		B-9 D 5.0-5.5	B-9 D 7.5-8.0	B-9 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.0-5.5 feet	7.5-8.0 feet	13.5-14.0 feet
PAHs (ug/Kg)	Chrysene	ND (<6.0)	**180**	ND (<5.9)
	Benzo[a]pyrene	ND (<6.0)	**41**	ND (<5.9)
	Benzo[b]fluoranthene	ND (<6.0)	**63**	ND (<5.9)
	Pyrene	ND (<6.0)	**49**	ND (<5.9)
PCBs (ug/Kg)	PCB-1260	ND (<60)	**4,900**	ND (<59)

Sample ID:		DP-01-(9-10) WSP 4	DP-02-(12.5-13.5) WSP 4	DP-03-(15-16) WSP 4
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		9.0-10.0 feet	12.5-13.5 feet	15.0-16.0 feet
PCBs (ug/Kg)	PCB-1260	**79**	**160**	ND (<49)

Sample ID:		B-7 D 5.5-6.0	B-7 D 7.5-8.0	B-7 D 8.5-9.0	B-7 D 11.5-12.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	8.5-9.0 feet	11.5-12.0 feet
PAHs (ug/Kg)	Benzo[b]fluoranthene	**6.6**	ND (<7.9)	ND (<6.4)	ND (<5.8)
	Fluoranthene	**6.6**	ND (<7.9)	ND (<6.4)	ND (<5.8)
PCBs (ug/Kg)	PCB-1260	ND (<64)	**720**	ND (<64)	ND (<58)

Sample ID:		MW-1D6.0	MW-1D7.5	MW-1D8.5	MW-1D20
Sample Date:		06-04-2012	06-04-2012	06-04-2012	06-04-2012
Sample depth:		6.0 to 6.5 feet	7.5 to 8.0 feet	8.5 to 9.0 feet	8.0 to 8.5 feet
PAHs (ug/Kg)	Benzo[b]fluoranthene	ND (<6.4)	**12**	ND (<6.1)	ND (<6.5)
	Chrysene	ND (<6.4)	**9.3**	ND (<6.1)	ND (<6.5)
	Fluoranthene	ND (<6.4)	**16**	ND (<6.1)	ND (<6.5)
	Phenanthrene	ND (<6.4)	**9.9**	ND (<6.1)	ND (<6.5)
	Pyrene	ND (<6.4)	**14**	ND (<6.1)	ND (<6.5)
PCBs (ug/Kg)	PCB-1260	ND (<64)	**260**	ND (<61)	ND (<65)

MW-1D20 is a duplicate of MW-1D7.5, highest concentrations are reported.

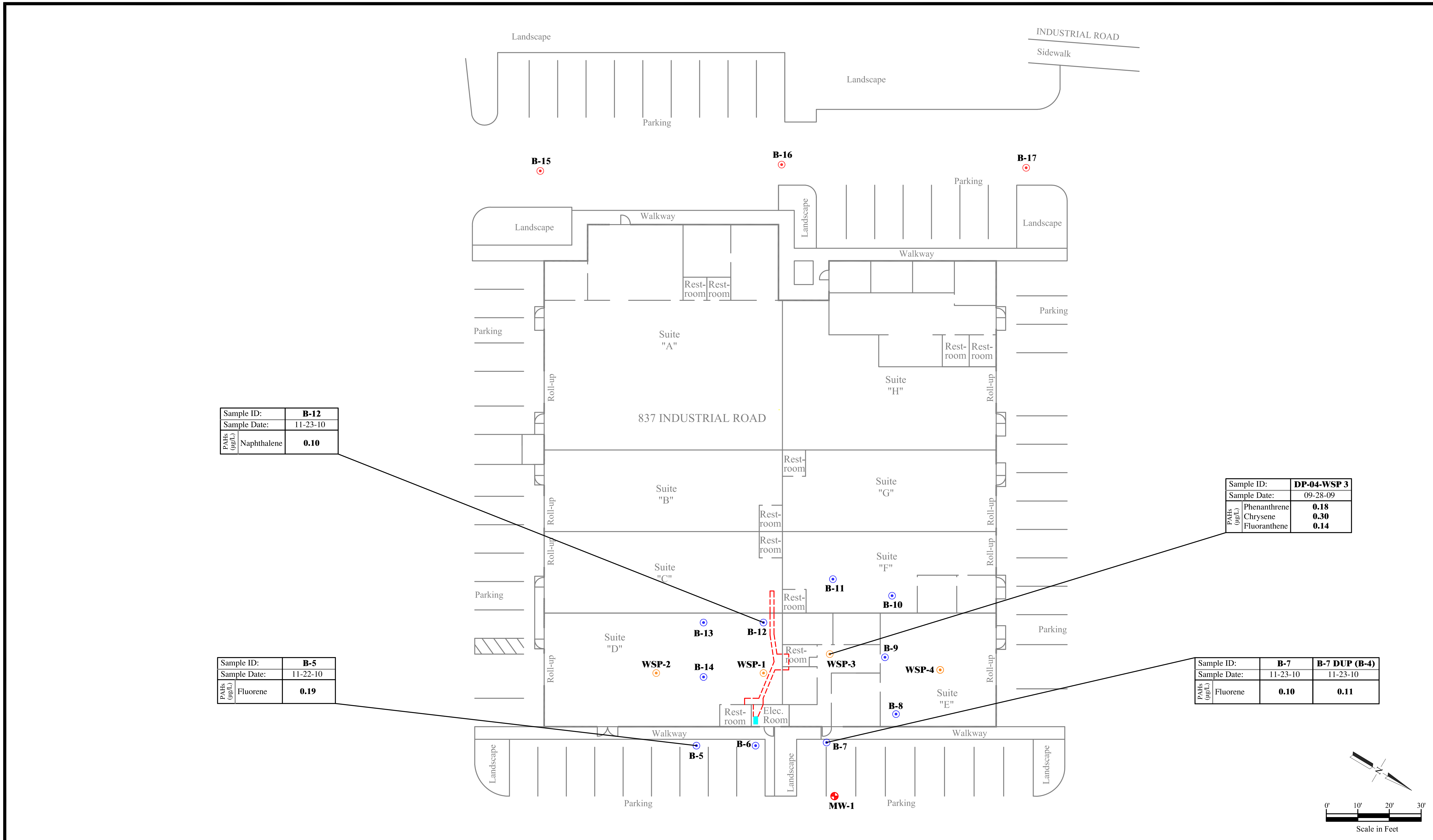
Legend:
- **MW-1** Groundwater monitoring well (GEI, June 2012)
- **WSP-1** Soil boring (WSP, 09/28/09)
- **B-5** Soil boring (GEI, 11/22/10, 11/23/10)
- **B-15** Soil boring (GEI, 01/20/11)
- Concrete surface trench
- Concrete sump box

(µg/Kg) Micrograms per kilogram
PCBs Polychlorinated Biphenyls
PAHs Poly-aromatic Hydrocarbons

ND (<2.0) Not detected at or above the laboratory reporting limit.
Only detected compounds shown on figure, highest concentrations are reported.

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name:	SOIL ANALYTICAL RESULTS: PAHs AND PCBs	Drawn by:	KA
		Date:	09/13/2013
		Scale:	1" = 30'-0"
Address:	837 Industrial Road San Carlos, California	Job #	B10655
		Figure #	FIGURE 6



Legend:

MW-1 Groundwater monitoring well (GEI, June 2012)
WSP-1 Soil boring (WSP, 09/28/09)
B-5 Soil boring (GEI, 11/22/10, 11/23/10)
B-15 Soil boring (GEI, 01/20/11)
Concrete surface trench
Concrete sump box

PCBs Polychlorinated Biphenyls
PAHs Poly-aromatic Hydrocarbons
(µg/L) Micrograms per liter
Only detected compounds shown on figure.
ND (<2.0) Not detected at or above the laboratory reporting limit.

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name:	GROUNDWATER ANALYTICAL RESULTS: PAHs AND PCBs
Address:	837 Industrial Road San Carlos, California
Drawn by:	KA
Date:	09/13/2013
Scale:	1" = 30'-0"
Job #	B10655
Figure #	FIGURE 7

Sample ID:		B-15 D 5.5-6.0	B-15 D 8.0-8.5
Sample Date:		01-20-11	01-20-11
Sample depth:		5.5-6.0 feet	8.0-8.5 feet
VOCs (µg/Kg)	Acetone	**300 H**	ND (<47) H
	2-Butanone (MEK)	**65 H**	ND (<47) H
	cis-1,2-Dichloroethene	ND (<6.0) H	**63 H**
	PCE	ND (<6.0) H	**68 H**
	TCE	ND (<6.0) H	**220 H**
	Vinyl chloride	ND (<6.0) H	**110 H**

Sample ID:		B-11 D 6.0-6.5	B-11 D 7.5-8.0	B-11 D 16.0-16.5
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		6.0-6.5 feet	7.5-8.0 feet	16.0-16.5 feet
VOCs (µg/Kg)	Acetone	ND (<53)	**240**	ND (<54)
	4-Isopropyltoluene	ND (<5.3)	**7.1 H**	ND (<5.4)
	Naphthalene	ND (<11)	**23 H**	ND (<11)
	PCE	ND (<5.3)	ND (<24)	**5.0 H**
	1,2,4-TMB	ND (<5.3)	**41**	ND (<5.4)
	1,3,5-TMB	ND (<5.3)	**13 H**	ND (<5.4)

Sample ID:		B-12 D 5.5-6.0	B-12 D 8.0-8.5	B-12 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
VOCs (µg/Kg)	Acetone	ND (<49)	**420**	ND (<56)
	2-Butanone (MEK)	ND (<49)	**100**	ND (<56)
	PCE	ND (<4.9)	ND (<7.7)	**4.9**

Sample ID:		DP-01-(8.5-9.5) WSP 3	DP-02-(12.5-13.5) WSP 3	DP-03-(15-16) WSP 3
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		8.5-9.5 feet	12.5-13.5 feet	15.0-16.0 feet
VOCs (µg/Kg)	Acetone	**160**	**100**	ND (<50)
TPH (mg/Kg)	TPHg	**0.26**	ND (<0.25)	ND (<0.25)

Sample ID:		B-13 D 5.5-6.0	B-13 D 8.0-8.5 B-3 D 8.0-8.5	B-13 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
VOCs (µg/Kg)	Acetone	ND (<55)	**240**	ND (<56)
	PCE	ND (<5.5)	ND (<18)	**22 H**

B-3 D 8.0-8.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:		B-10 D 5.5-6.0	B-10 D 8.0-8.5	B-10 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
VOCs (µg/Kg)	Acetone	**71**	**200**	ND (<55)

Sample ID:		DP-01(6.5-7.5)-WSP 1	DP-02(12.5-13.5)-WSP 1	DP-03(15-16)-WSP 1
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		6.5-7.5 feet	12.5-13.5 feet	15.0-16.0 feet
VOCs (µg/Kg)	Acetone	**51**	**180**	ND (<50)
	4-Isopropyltoluene	ND (<5.1)	**5.8**	ND (<5.0)
	Naphthalene	ND (<10)	**33**	ND (<9.9)
	Toluene	ND (<5.1)	**9.3**	ND (<5.0)
	1,2,4-TMB	ND (<5.1)	**31**	ND (<5.0)
	1,3,5-TMB	ND (<5.1)	**13**	ND (<5.0)
	Xylenes, Total	ND (<10)	**24**	ND (<9.9)
TPH (mg/Kg)	TPHg	ND (<0.25)	**0.44**	ND (<0.25)

Sample ID:		B-9 D 5.0-5.5	B-9 D 7.5-8.0	B-9 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.0-5.5 feet	7.5-8.0 feet	13.5-14.0 feet
VOCs (µg/Kg)	Acetone	ND (<64) H	**280 H**	ND (<55)
	2-Butanone (MEK)	ND (<64) H	**80 H**	ND (<55)
	Carbon disulfide	ND (<6.4) H	**16 H**	ND (<5.5)

Sample ID:		DP-01-(9-10) WSP 4	DP-02-(12.5-13.5) WSP 4	DP-03-(15-16) WSP 4
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		9.0-10.0 feet	12.5-13.5 feet	15.0-16.0 feet
VOCs (µg/Kg)	Acetone	**170**	**350**	ND (<50)
	2-Butanone (MEK)	ND (<50)	**72**	ND (<50)

Sample ID:		B-14 D 5.5-6.0 B-3 D 5.5-6.0	B-14 D 8.0-8.5	B-14 D 10-10.5 B-3 D 10.0-10.5	B-14 D 14.0-14.5
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	10.0-10.5 feet	14.0-14.5 feet
VOCs (µg/Kg)	Acetone	ND (<62)	**240**	**70**	ND (<55)
	PCE	ND (<6.2)	ND (<10)	ND (<6.9) H	**16 H**
	Xylenes, Total	ND (<12)	**14**	ND (<14) H	ND (<11)

B-3 D 5.5-6.0 is a duplicate of B-14 D 5.5-6.0, highest concentrations are reported.
B-3 D 10.0-10.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:		B-8 D 5.5-6.0	B-8 D 7.5-8.0	B-8 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	13.5-14.0 feet
VOCs (µg/Kg)	Acetone	**89**	**570**	ND (<56)
	2-Butanone (MEK)	ND (<55)	**110**	ND (<56)

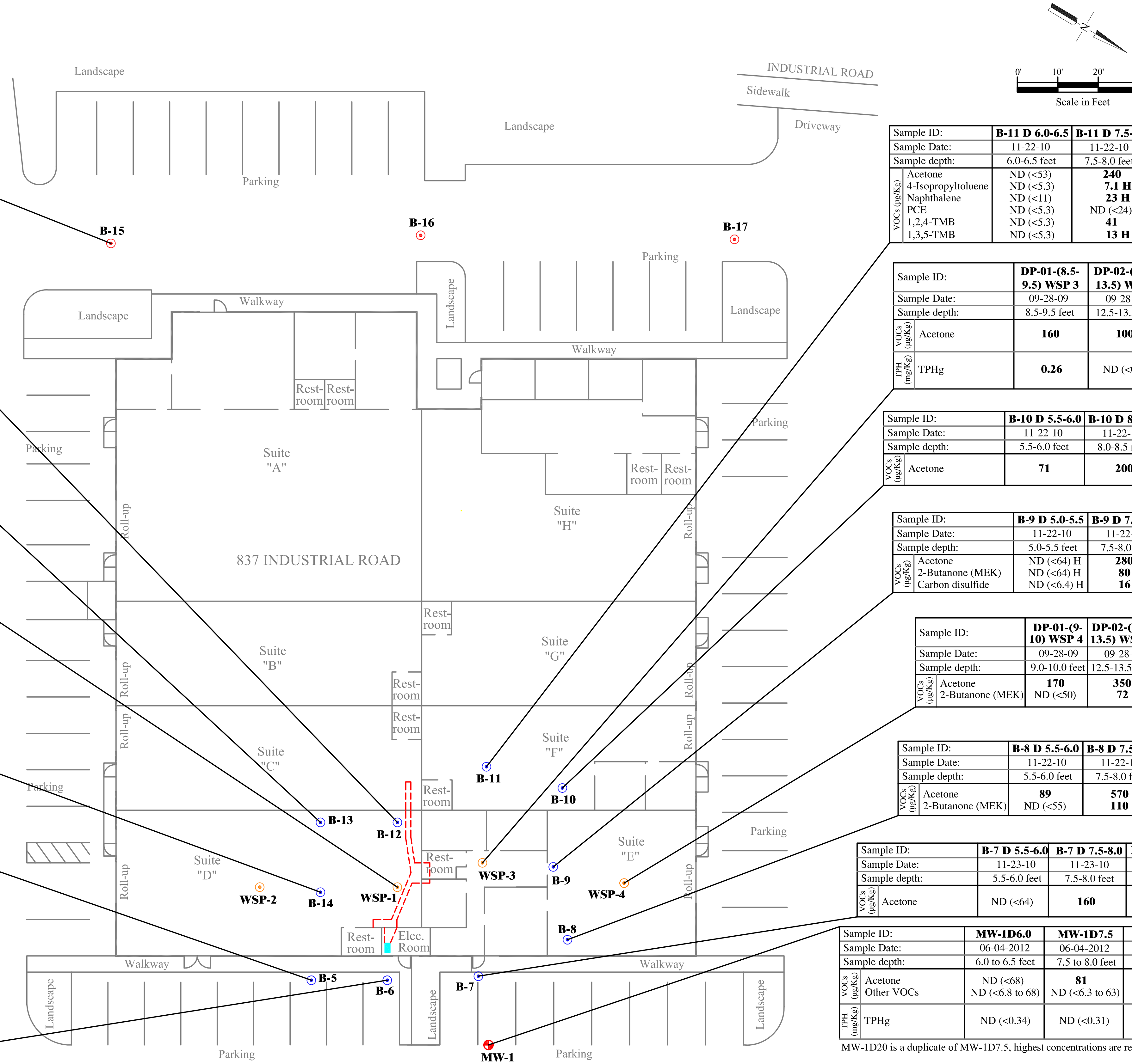
Sample ID:		B-5 D 5.5-6.0	B-5 D 7.5-8.0	B-5 D 16-16.5
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	16.0-16.5 feet
VOCs (µg/Kg)	Acetone	ND (<61)	**600**	ND (<58)
	2-Butanone (MEK)	ND (<61)	**170**	ND (<58)
	Carbon disulfide	ND (<6.1)	**9.4**	ND (<5.8)
	Toluene	ND (<6.1)	**11**	ND (<5.8)
	TCE	ND (<6.1)	ND (<7.2)	**9.4**
	CFC-113	ND (<6.1)	ND (<7.2)	**5.2**
	1,2,4-TMB	ND (<6.1)	**9.9**	ND (<5.8)

Sample ID:		B-7 D 5.5-6.0	B-7 D 7.5-8.0	B-7 D 8.5-9.0	B-7 D 11.5-12.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	8.5-9.0 feet	11.5-12.0 feet
VOCs (µg/Kg)	Acetone	ND (<64)	**160**	**77**	ND (<57)

Sample ID:		MW-1D6.0	MW-1D7.5	MW-1D8.5	MW-1D20
Sample Date:		06-04-2012	06-04-2012	06-04-2012	06-04-2012
Sample depth:		6.0 to 6.5 feet	7.5 to 8.0 feet	8.5 to 9.0 feet	8.0 to 8.5 feet
VOCs (µg/Kg)	Acetone	ND (<68)	**81**	ND (<45)	**140**
	Other VOCs	ND (<6.8 to 68)	ND (<6.3 to 63)	ND (<4.5 to 45)	ND (<7.4 to 74)
TPH (mg/Kg)	TPHg	ND (<0.34)	ND (<0.31)	ND (<0.23)	ND (<0.37)

MW-1D20 is a duplicate of MW-1D7.5, highest concentrations are reported.

Sample ID:		B-6 D 3.5-4.0	B-6 D 5.5-6.0	B-6 D 7.5-8.0	B-6 D 12.5-13.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		3.5-4.0 feet	5.5-6.0 feet	7.5-8.0 feet	12.5-13.0 feet
VOCs (µg/Kg)	Acetone	ND (<55)	ND (<72)	**380**	ND (<43)
	Toluene	ND (<5.5)	ND (<7.2)	**13**	ND (<4.3)



Legend:

MW-1	Groundwater monitoring well (GEI, June 2012)	
WSP-1	Soil boring (WSP, 09/28/09)	
B-5	Soil boring (GEI, 11/22/10, 11/23/10)	
B-15	Soil boring (GEI, 01/20/11)	
	Concrete surface trench	
	Concrete sump box	

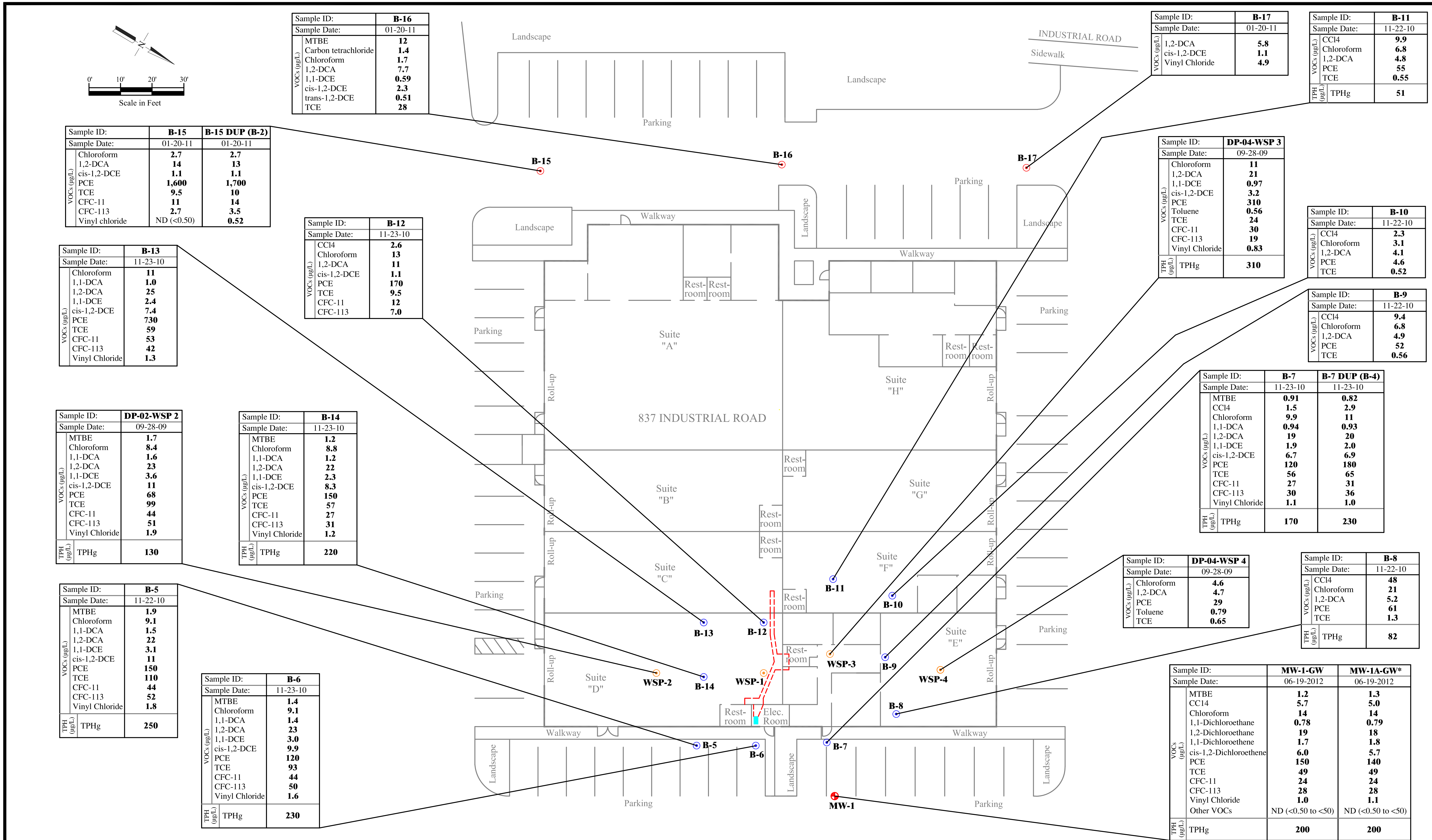
TPH Total petroleum hydrocarbon
TPHg Gasoline Range Organics
(mg/Kg) Milligrams per kilogram
(µg/Kg) Micrograms per kilogram
VOCs Volatile Organic Compounds
PCE Tetrachloroethene
TCE Trichloroethene
1,2,4-TMB 1,2,4-Trimethylbenzene
1,3,5-TMB 1,3,5-Trimethylbenzene
CFC-113 1,1,2-Trichloro-1,2,2-trifluoroethane
ND (<2.0) Not detected at or above the laboratory reporting limit
H Sample was prepped or analyzed beyond the specified holding time.
Only detected compounds shown on figure, highest concentrations are reported.

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name: SOIL ANALYTICAL RESULTS: VOCs

Address: 837 Industrial Road, San Carlos, California

Drawn by: KA
Date: 09/13/2013
Scale: 1" = 30'-0"
Job #: B10655
Figure #: FIGURE 8



Sample ID:	B-16
Sample Date:	01-20-11
VOCs (µg/L) MTBE	12
Carbon tetrachloride	1.4
Chloroform	1.7
1,2-DCA	7.7
1,1-DCE	0.59
cis-1,2-DCE	2.3
trans-1,2-DCE	0.51
TCE	28

Sample ID:	B-17
Sample Date:	01-20-11
VOCs (µg/L) 1,2-DCA	5.8
cis-1,2-DCE	1.1
Vinyl Chloride	4.9

Sample ID:	B-11
Sample Date:	11-22-10
VOCs (µg/L) CCl4	9.9
Chloroform	6.8
1,2-DCA	4.8
PCE	55
TCE	0.55
TPH (µg/L) TPHg	51

Sample ID:	B-15	B-15 DUP (B-2)
Sample Date:	01-20-11	01-20-11
VOCs (µg/L) Chloroform	2.7	2.7
1,2-DCA	14	13
cis-1,2-DCE	1.1	1.1
PCE	1,600	1,700
TCE	9.5	10
CFC-11	11	14
CFC-113	2.7	3.5
Vinyl chloride	ND (<0.50)	0.52

Sample ID:	DP-04-WSP 3
Sample Date:	09-28-09
VOCs (µg/L) Chloroform	11
1,2-DCA	21
1,1-DCE	0.97
cis-1,2-DCE	3.2
PCE	310
Toluene	0.56
TCE	24
CFC-11	30
CFC-113	19
Vinyl Chloride	0.83
TPH (µg/L) TPHg	310

Sample ID:	B-12
Sample Date:	11-23-10
VOCs (µg/L) CCl4	2.6
Chloroform	13
1,2-DCA	11
cis-1,2-DCE	1.1
PCE	170
TCE	9.5
CFC-11	12
CFC-113	7.0

Sample ID:	B-10
Sample Date:	11-22-10
VOCs (µg/L) CCl4	2.3
Chloroform	3.1
1,2-DCA	4.1
PCE	4.6
TCE	0.52

Sample ID:	B-13
Sample Date:	11-23-10
VOCs (µg/L) Chloroform	11
1,1-DCA	1.0
1,2-DCA	25
1,1-DCE	2.4
cis-1,2-DCE	7.4
PCE	730
TCE	59
CFC-11	53
CFC-113	42
Vinyl Chloride	1.3

Sample ID:	B-9
Sample Date:	11-22-10
VOCs (µg/L) CCl4	9.4
Chloroform	6.8
1,2-DCA	4.9
PCE	52
TCE	0.56

Sample ID:	B-7	B-7 DUP (B-4)
Sample Date:	11-23-10	11-23-10
VOCs (µg/L) MTBE	0.91	0.82
CCl4	1.5	2.9
Chloroform	9.9	11
1,1-DCA	0.94	0.93
1,2-DCA	19	20
1,1-DCE	1.9	2.0
cis-1,2-DCE	6.7	6.9
PCE	120	180
TCE	56	65
CFC-11	27	31
CFC-113	30	36
Vinyl Chloride	1.1	1.0
TPH (µg/L) TPHg	170	230

Sample ID:	DP-02-WSP 2
Sample Date:	09-28-09
VOCs (µg/L) MTBE	1.7
Chloroform	8.4
1,1-DCA	1.6
1,2-DCA	23
1,1-DCE	3.6
cis-1,2-DCE	11
PCE	68
TCE	99
CFC-11	44
CFC-113	51
Vinyl Chloride	1.9
TPH (µg/L) TPHg	130

Sample ID:	B-14
Sample Date:	11-23-10
VOCs (µg/L) MTBE	1.2
Chloroform	8.8
1,1-DCA	1.2
1,2-DCA	22
1,1-DCE	2.3
cis-1,2-DCE	8.3
PCE	150
TCE	57
CFC-11	27
CFC-113	31
Vinyl Chloride	1.2
TPH (µg/L) TPHg	220

Sample ID:	DP-04-WSP 4
Sample Date:	09-28-09
VOCs (µg/L) Chloroform	4.6
1,2-DCA	4.7
PCE	29
Toluene	0.79
TCE	0.65

Sample ID:	B-8
Sample Date:	11-22-10
VOCs (µg/L) CCl4	48
Chloroform	21
1,2-DCA	5.2
PCE	61
TCE	1.3
TPH (µg/L) TPHg	82

Sample ID:	B-5
Sample Date:	11-22-10
VOCs (µg/L) MTBE	1.9
Chloroform	9.1
1,1-DCA	1.5
1,2-DCA	22
1,1-DCE	3.1
cis-1,2-DCE	11
PCE	150
TCE	110
CFC-11	44
CFC-113	52
Vinyl Chloride	1.8
TPH (µg/L) TPHg	250

Sample ID:	B-6
Sample Date:	11-23-10
VOCs (µg/L) MTBE	1.4
Chloroform	9.1
1,1-DCA	1.4
1,2-DCA	23
1,1-DCE	3.0
cis-1,2-DCE	9.9
PCE	120
TCE	93
CFC-11	44
CFC-113	50
Vinyl Chloride	1.6
TPH (µg/L) TPHg	230

Sample ID:	MW-1-GW	MW-1A-GW*
Sample Date:	06-19-2012	06-19-2012
VOCs (µg/L) MTBE	1.2	1.3
CCl4	5.7	5.0
Chloroform	14	14
1,1-Dichloroethane	0.78	0.79
1,2-Dichloroethane	19	18
1,1-Dichloroethene	1.7	1.8
cis-1,2-Dichloroethene	6.0	5.7
PCE	150	140
TCE	49	49
CFC-11	24	24
CFC-113	28	28
Vinyl Chloride	1.0	1.1
Other VOCs	ND (<0.50 to <50)	ND (<0.50 to <50)
TPH (µg/L) TPHg	200	200

Legend:

MW-1	Groundwater monitoring well (GEI, June 2012)
WSP-1	Soil boring (WSP, 09/28/09)
B-5	Soil boring (GEI, 11/22/10, 11/23/10)
B-15	Soil boring (GEI, 01/20/11)
	Concrete surface trench
	Concrete sump box
ND (<2.0)	Not detected at or above the laboratory reporting limit.
*	Duplicate water sample from MW-1
	Only detected compounds shown on figure.

VOCs	Volatile Organic Compounds	MTBE	Methyl tert-butyl ether
TPH	Total petroleum hydrocarbon	CCl4	Carbon tetrachloride
TPHg	Gasoline Range Organics	cis-1,2-DCE	cis-1,2-Dichloroethene
PCE	Tetrachloroethene	1,1-DCE	1,1-Dichloroethene
TCE	Trichloroethene	1,1-DCA	1,1-Dichloroethane
CFC-11	Trichlorofluoromethane	1,2-DCA	1,2-Dichloroethane
CFC-113	1,1,2-Trichloro-1,2,2-trifluoroethane	(µg/L)	Micrograms per liter

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name:	GROUNDWATER ANALYTICAL RESULTS: VOCs	Drawn by:	KA
		Date:	09/13/2013
		Scale:	1" = 30'-0"
Address:	837 Industrial Road San Carlos, California	Job #	B10655
		Figure #	FIGURE 9

Sample ID:		DP-01-(8.5-9.5) WSP 3	DP-02-(12.5-13.5) WSP 3	DP-03-(15-16) WSP 3
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		8.5-9.5 feet	12.5-13.5 feet	15.0-16.0 feet
Metals (mg/Kg)	Chromium	43	35	37
	Nickel	65	46	42
	Lead	54	54	4.0
	Zinc	32	26	28

Sample ID:		B-12 D 5.5-6.0	B-12 D 8.0-8.5	B-12 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
Metals (mg/Kg)	Chromium	240	87	49
	Nickel	770	84	60
	Lead	9.5	110	5.8
	Zinc	40	80	35

Sample ID:		DP-01(6.5-7.5)-WSP 1	DP-02(12.5-13.5)-WSP 1	DP-03(15-16)-WSP 1
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		6.5-7.5 feet	12.5-13.5 feet	15.0-16.0 feet
Metals (mg/Kg)	Cadmium	ND (<0.32)	0.98	ND (<0.32)
	Chromium	170	36	41
	Nickel	470	34	44
	Lead	8.4	870	4.4
	Zinc	38	57	30

Sample ID:		B-13 D 5.5-6.0	B-13 D 8.0-8.5 B-3 D 8.0-8.5	B-13 D 13.5-14.0
Sample Date:		11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
Metals (mg/Kg)	Cadmium	ND (<0.53)	0.80	ND (<0.57)
	Chromium	320	61	43
	Nickel	1,100	50	50
	Lead	6.1	24	6.7
	Zinc	33	54	35

B-3 D 8.0-8.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

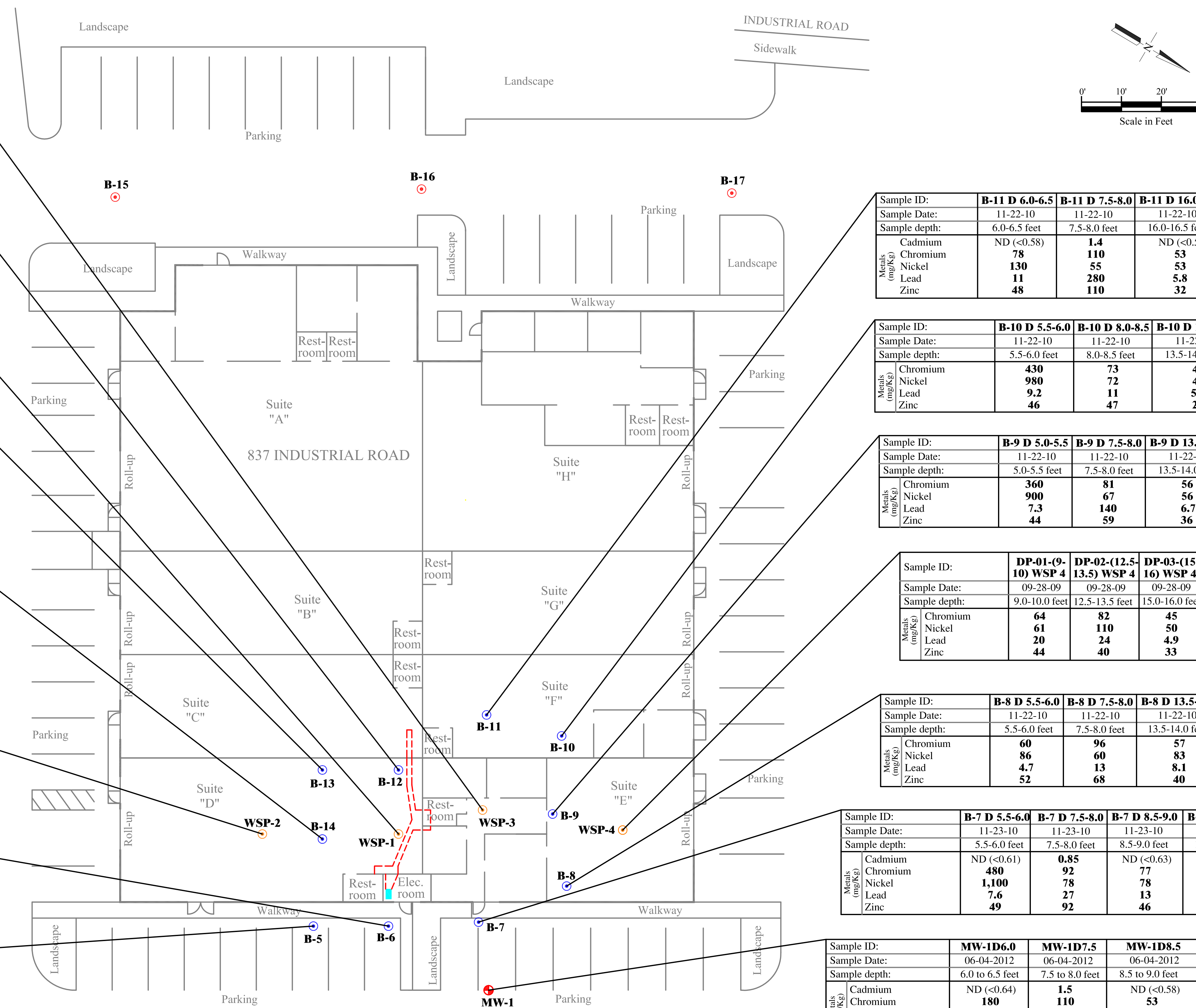
Sample ID:		B-14 D 5.5-6.0 B-3 D 5.5-6.0	B-14 D 8.0-8.5	B-14 D 10-10.5 B-3 D 10.0-10.5	B-14 D 14.0-14.5
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	10.0-10.5 feet	14.0-14.5 feet
Metals (mg/Kg)	Cadmium	ND (<0.65)	0.63	ND (<0.60)	ND (<0.59)
	Chromium	460	66	47	39
	Nickel	1,400	65	50	50
	Lead	8.4	330	8.2	5.6
	Zinc	49	88	31	31

B-3 D 5.5-6.0 is a duplicate of B-14 D 5.5-6.0, highest concentrations are reported.
B-3 D 10.0-10.5 is a duplicate of B-13 D 8.0-8.5, highest concentrations are reported.

Sample ID:		DP-03-(12.5-13.5) WSP 2
Sample Date:		09-28-09
Sample depth:		12.5-13.5 feet
Metals (mg/Kg)	Chromium	86
	Nickel	150
	Lead	110
	Zinc	57

Sample ID:		B-6 D 3.5-4.0	B-6 D 5.5-6.0	B-6 D 7.5-8.0	B-6 D 12.5-13.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		3.5-4.0 feet	5.5-6.0 feet	7.5-8.0 feet	12.5-13.0 feet
Metals (mg/Kg)	Chromium	120	800	83	44
	Nickel	180	2,200	120	51
	Lead	16	6.8	180	5.5
	Zinc	52	53	54	32

Sample ID:		B-5 D 5.5-6.0	B-5 D 7.5-8.0	B-5 D 16-16.5
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	16.0-16.5 feet
Metals (mg/Kg)	Chromium	760	270	66
	Nickel	1,700	740	91
	Lead	6.9	26	8.0
	Zinc	46	49	47



Sample ID:		B-11 D 6.0-6.5	B-11 D 7.5-8.0	B-11 D 16.0-16.5
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		6.0-6.5 feet	7.5-8.0 feet	16.0-16.5 feet
Metals (mg/Kg)	Cadmium	ND (<0.58)	1.4	ND (<0.55)
	Chromium	78	110	53
	Nickel	130	55	53
	Lead	11	280	5.8
	Zinc	48	110	32

Sample ID:		B-10 D 5.5-6.0	B-10 D 8.0-8.5	B-10 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	8.0-8.5 feet	13.5-14.0 feet
Metals (mg/Kg)	Chromium	430	73	44
	Nickel	980	72	44
	Lead	9.2	11	5.2
	Zinc	46	47	29

Sample ID:		B-9 D 5.0-5.5	B-9 D 7.5-8.0	B-9 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.0-5.5 feet	7.5-8.0 feet	13.5-14.0 feet
Metals (mg/Kg)	Chromium	360	81	56
	Nickel	900	67	56
	Lead	7.3	140	6.7
	Zinc	44	59	36

Sample ID:		DP-01-(9-10) WSP 4	DP-02-(12.5-13.5) WSP 4	DP-03-(15-16) WSP 4
Sample Date:		09-28-09	09-28-09	09-28-09
Sample depth:		9.0-10.0 feet	12.5-13.5 feet	15.0-16.0 feet
Metals (mg/Kg)	Chromium	64	82	45
	Nickel	61	110	50
	Lead	20	24	4.9
	Zinc	44	40	33

Sample ID:		B-8 D 5.5-6.0	B-8 D 7.5-8.0	B-8 D 13.5-14.0
Sample Date:		11-22-10	11-22-10	11-22-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	13.5-14.0 feet
Metals (mg/Kg)	Chromium	60	96	57
	Nickel	86	60	83
	Lead	4.7	13	8.1
	Zinc	52	68	40

Sample ID:		B-7 D 5.5-6.0	B-7 D 7.5-8.0	B-7 D 8.5-9.0	B-7 D 11.5-12.0
Sample Date:		11-23-10	11-23-10	11-23-10	11-23-10
Sample depth:		5.5-6.0 feet	7.5-8.0 feet	8.5-9.0 feet	11.5-12.0 feet
Metals (mg/Kg)	Cadmium	ND (<0.61)	0.85	ND (<0.63)	ND (<0.57)
	Chromium	480	92	77	71
	Nickel	1,100	78	78	65
	Lead	7.6	27	13	7.4
	Zinc	49	92	46	39

Sample ID:		MW-1D6.0	MW-1D7.5	MW-1D8.5	MW-1D20
Sample Date:		06-04-2012	06-04-2012	06-04-2012	06-04-2012
Sample depth:		6.0 to 6.5 feet	7.5 to 8.0 feet	8.5 to 9.0 feet	8.0 to 8.5 feet
Metals (mg/Kg)	Cadmium	ND (<0.64)	1.5	ND (<0.58)	ND (<0.63)
	Chromium	180	110	53	95
	Nickel	340	91	53	150
	Zinc	57	85	30	60

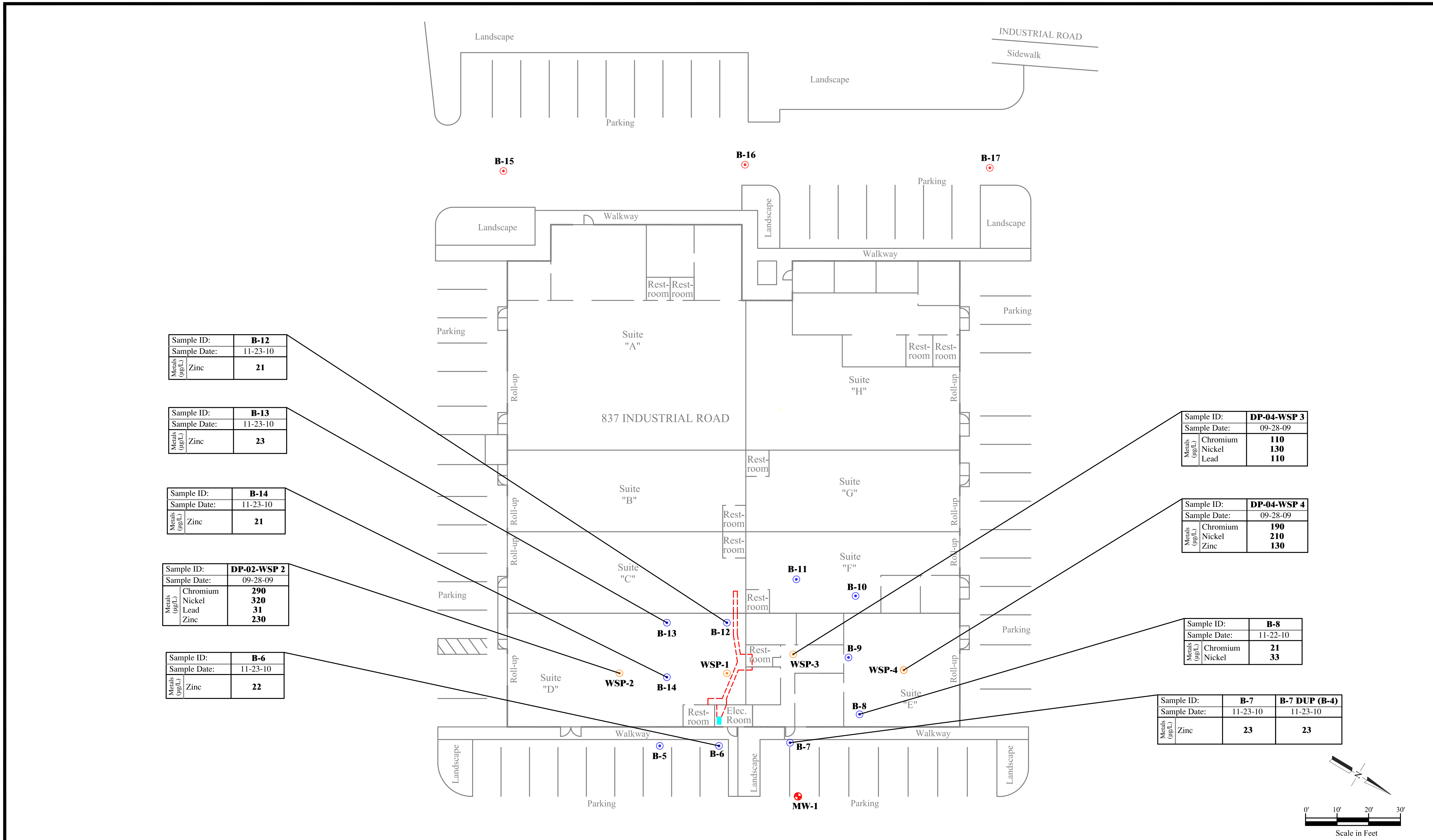
MW-1D20 is a duplicate of MW-1D7.5, highest concentrations are reported.

Legend:
- MW-1 Groundwater monitoring well (GEI, June 2012)
- WSP-1 Soil boring (WSP, 09/28/09)
- B-5 Soil boring (GEI, 11/22/10, 11/23/10)
- B-15 Soil boring (GEI, 01/20/11)
- Concrete surface trench
- Concrete sump box

(mg/Kg) Milligrams per kilogram
ND (<2.0) Not detected at or above the laboratory reporting limit.
Only detected compounds shown on figure, highest concentrations are reported.

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name:	SOIL ANALYTICAL RESULTS: METALS	Drawn by:	KA
		Date:	09/13/2013
		Scale:	1" = 30'-0"
Address:	837 Industrial Road San Carlos, California	Job #	B10655
		Figure #	FIGURE 10



Sample ID:	B-12
Sample Date:	11-23-10
Metals (µg/L) Zinc	21

Sample ID:	B-13
Sample Date:	11-23-10
Metals (µg/L) Zinc	23

Sample ID:	B-14
Sample Date:	11-23-10
Metals (µg/L) Zinc	21

Sample ID:	DP-02-WSP 2
Sample Date:	09-28-09
Metals (µg/L) Chromium	290
Nickel	320
Lead	31
Zinc	230

Sample ID:	B-6
Sample Date:	11-23-10
Metals (µg/L) Zinc	22

Sample ID:	DP-04-WSP 3
Sample Date:	09-28-09
Metals (µg/L) Chromium	110
Nickel	130
Lead	110

Sample ID:	DP-04-WSP 4
Sample Date:	09-28-09
Metals (µg/L) Chromium	190
Nickel	210
Zinc	130

Sample ID:	B-8
Sample Date:	11-22-10
Metals (µg/L) Chromium	21
Nickel	33

Sample ID:	B-7	B-7 DUP (B-4)
Sample Date:	11-23-10	11-23-10
Metals (µg/L) Zinc	23	23

Legend:

- MW-1 Groundwater monitoring well (GEI, June 2012)
- WSP-1 Soil boring (WSP, 09/28/09)
- B-5 Soil boring (GEI, 11/22/10, 11/23/10)
- B-15 Soil boring (GEI, 01/20/11)
- Concrete surface trench
- Concrete sump box

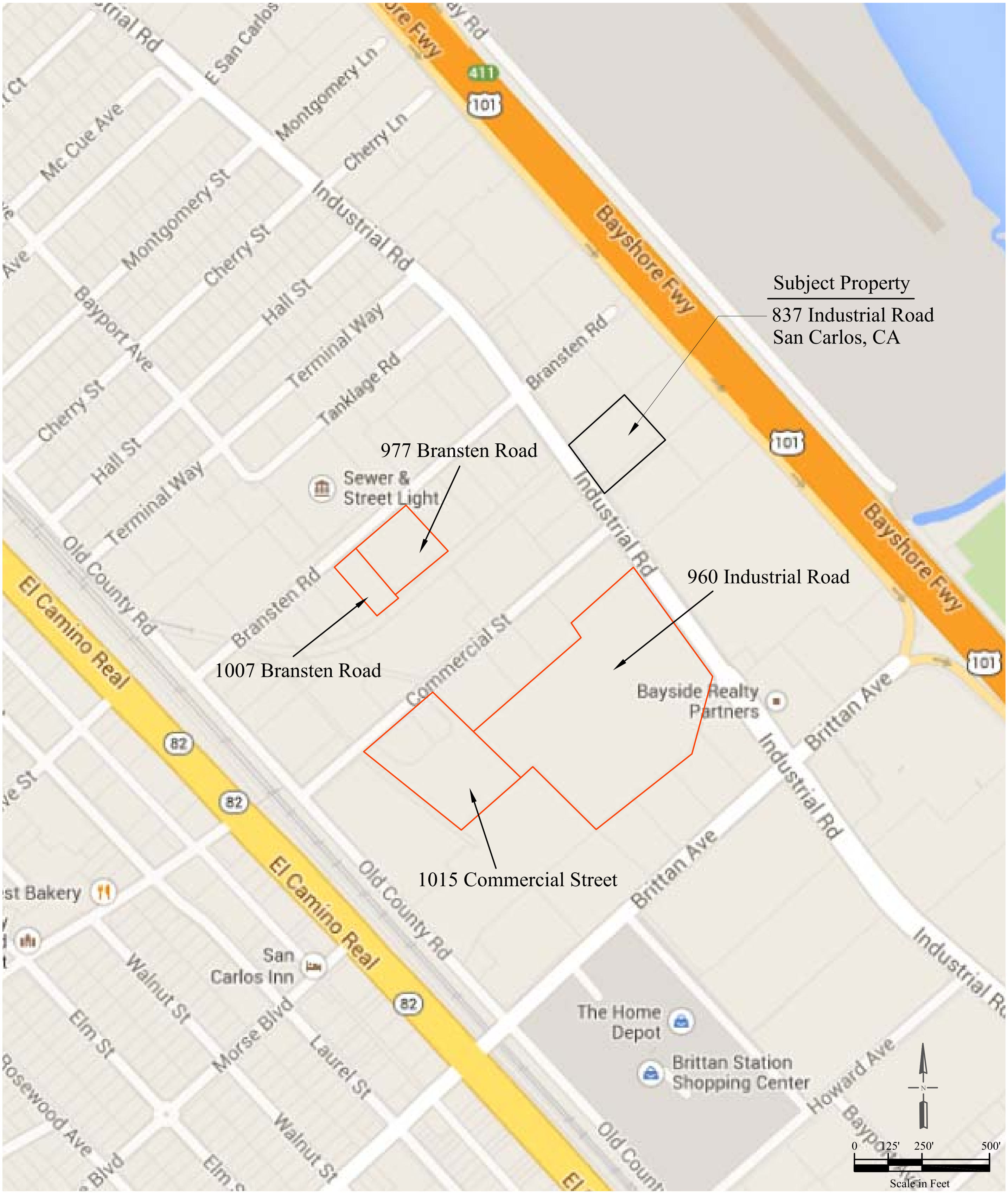
(µg/L) Micrograms per liter
ND (<2.0) Not detected at or above the laboratory reporting limit.
Only detected compounds shown on figure.

GEI Green Environment inc.
www.greenenvironment.com

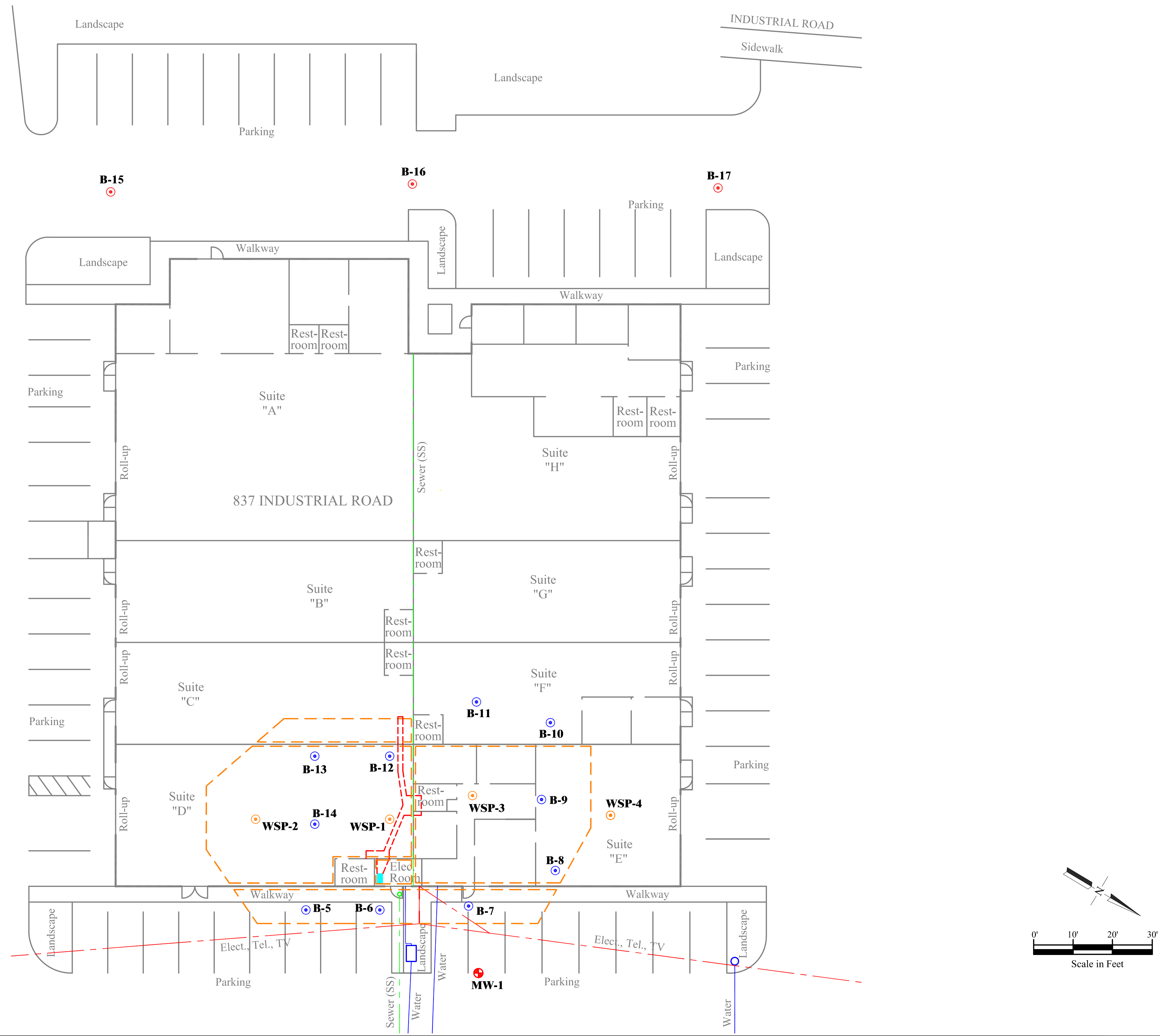
Drawing Name: GROUNDWATER ANALYTICAL RESULTS: METALS

Address: 837 Industrial Road
San Carlos, California

Drawn by:	KA
Date:	09/13/2013
Scale:	1" = 30'-0"
Job #	B10655
Figure #	FIGURE 11



Note: Reference: Google Maps, 2013	GEI Green Environment inc. www.greenenvironment.com	Drawing Name: POTENTIAL OFF-SITE SOURCES OF VOC'S IN GROUNDWATER	Drawn by: KA
			Date: 09/13/2013
			Scale: 1" = 500' (Approximate)
		Address: 837 Industrial Road San Carlos, California	Job # B10655
			Figure # FIGURE 12



Legend:

MW-1	Groundwater monitoring well (GEI, June 2012)	
WSP-1	Soil boring (WSP, 09/28/09)	
B-5	Soil boring (GEI, 11/22/10, 11/23/10)	
B-15	Soil boring (GEI, 01/20/11)	
	Concrete surface trench	
	Concrete sump box	

Proposed excavation areas

Underground utilities approximate locations:
- Water
- Elec., Tel., Cable TV
- Sewer (SS)

GEI Green Environment inc.
www.greenenvironment.com

Drawing Name:	EXCAVATION AREA FOR ALTERNATIVE 2	Drawn by:	KA
		Date:	09/13/2013
Address:	837 Industrial Road San Carlos, California	Scale:	1" = 30'-0"
		Job #	B10655
		Figure #	FIGURE 13

TABLES

Table 1:
Soil Organic Analytical Results

Sample ID	Sample Date	Field Point	Sample Depth	pH	TPHg	TPHd	TPHmo	PCBs		Volatile Organic Compounds, VOCs [8]													Polyaromatic Hydrocarbons, PAHs							
								PCB-1260	Other PCBs	Acetone	2-Butanone (MEK)	Carbon disulfide	4-Isopropyl-toluene	Naphthalene	PCE	Toluene	TCE	CFC-113	1,2,4-TMB	1,3,5-TMB	Xylenes, Total	Other VOCs [6]	Naphthalene	Phenanthrene	Chrysene	Benzo[a] pyrene	Benzo[b] fluoranthene	Fluoranthene	Pyrene	Other PAHs
			ft bfs	SU	mg/Kg	mg/Kg	mg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg
DP-01 (6.5-7.5)-WSP 1	09/28/09	WSP-1	6.5 to 7.5	7.48	ND (<0.25)	**54**	**150**	ND (<50)	ND (<50)	**51**	ND (<51)	ND (<5.1)	ND (<5.1)	ND (<10)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<5.1)	ND (<10)	ND (<5.1) to ND (<51)	ND (<50)	ND (<50)	**88**	ND (<50)	**52**	ND (<50)	ND (<50)	ND (<50)
DP-02 (12.5-13.5)-WSP 1[1]	09/28/09	WSP-1	12.5 to 13.5	3.90	**0.44**	**4,800**	**11,000**	**1,500**	ND (<300)	**180**	ND (<46)	ND (<4.6)	**5.8**	**33**	ND (<4.6)	**9.3**	ND (<4.6)	ND (<4.6)	**31**	**13**	**24**	ND (<4.6) to ND (<46)	ND (<720)	**1,200**	**1,200**	ND (<720)	ND (<720)	ND (<720)	ND (<720)	ND (<720)
DP-03 (15-16)-WSP 1	09/28/09	WSP-1	15.0 to 16.0	8.30	ND (<0.25)	ND (<1.0)	ND (<50)	ND (<49)	ND (<49)	ND (<50)	ND (<50)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0) to ND (<50)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
DP-03-(12.5-13.5) WSP 2	09/28/09	WSP-2	12.5 to 13.5	8.30	ND (<0.25)	**110**	**300**	**1,400**	ND (<500)	ND (<50)	ND (<50)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<10)	ND (<5.0) to ND (<50)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)	ND (<25)
DP-01-(8.5-9.5) WSP 3 [2]	09/28/09	WSP-3	8.5 to 9.5	6.93	**0.26**	**2,300**	**7,100**	**880**	ND (<290)	**160**	ND (<45)	ND (<4.5)	ND (<4.5)	ND (<9.0)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<9.0)	ND (<4.5) to ND (<45)	ND (<1,400)	**2,300**	**3,800**	ND (<1,400)	**1,900**	**1,900**	ND (<1,400)	ND (<1,400)
DP-02-(12.5-13.5) WSP 3	09/28/09	WSP-3	12.5 to 13.5	7.54	ND (<0.25)	**940**	**2,600**	**1,800**	ND (<490)	**100**	ND (<49)	ND (<4.9)	ND (<4.9)	ND (<9.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<9.9)	ND (<4.9) to ND (<49)	ND (<250)	ND (<250)	ND (<250)	ND (<250)	ND (<250)	ND (<250)	ND (<250)	ND (<250)
DP-03-(15-16) WSP 3	09/28/09	WSP-3	15.0 to 16.0	8.64	ND (<0.25)	ND (<1.0)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<50)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0) to ND (<50)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
DP-01-(9-10) WSP 4	09/28/09	WSP-4	9.0 to 10.0	8.04	ND (<0.25)	**6.4**	ND (<49)	**79**	ND (<50)	**170**	ND (<50)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0) to ND (<50)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)	ND (<4.9)
DP-02-(12.5-13.5) WSP 4	09/28/09	WSP-4	12.5 to 13.5	8.10	ND (<0.22)	**17**	**63**	**160**	ND (<50)	**350**	**72**	ND (<4.4)	ND (<4.4)	ND (<8.8)	ND (<4.4)	ND (<4.4)	ND (<4.4)	ND (<4.4)	ND (<4.4)	ND (<4.4)	ND (<8.8)	ND (<4.4) to ND (<44)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
DP-03-(15-16) WSP 4	09/28/09	WSP-4	15.0 to 16.0	8.64	ND (<0.25)	ND (<0.99)	ND (<49)	ND (<49)	ND (<49)	ND (<50)	ND (<50)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<9.9)	ND (<5.0) to ND (<50)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
B-5 D 5.5-6.0	11/22/10	B-5	5.5 to 6.0	8.06	ND (<0.31)	ND (<1.3)	ND (<67)	ND (<67)	ND (<67)	[ND (<61)]	[ND (<61)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<12)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<6.1)]	[ND (<12)]	[ND (<6.1) to ND (<61)]	ND (<6.7)	ND (<6.7)	ND (<6.7)	ND (<6.7)	ND (<6.7)	ND (<6.7)	ND (<6.7)	ND (<6.7)
B-5 D 7.5-8.0	11/22/10	B-5	7.5 to 8.0	7.52	ND (<0.36)	**3,700**	**11,000**	**44,000**	ND (<33,000)	[**600**]*	[**170**]	[**9.4**]	[ND (<7.2)]	[ND (<14)]	[ND (<7.2)]	[**11**]	[ND (<7.2)]	[ND (<7.2)]	[**9.9**]	[ND (<7.2)]	[ND (<14)]	[ND (<7.2) to ND (<72)]	ND (<33)	ND (<33)	**140**	**61**	ND (<33)	**69**	**160**	ND (<33)
B-5 D 16-16.5	11/22/10	B-5	16.0 to 16.5	8.92	ND (<0.29) [ND (<0.22)]	ND (<1.2)	ND (<58)	ND (<58)	ND (<58)	ND (<58) [ND (<44)]	ND (<58) [ND (<44)]	ND (<5.8) [ND (<4.4)]	ND (<5.8) [ND (<4.4)]	ND (<12) [ND (<8.8)]	ND (<5.8) [ND (<4.4)]	ND (<5.8) [ND (<4.4)]	ND (<5.8) [**9.4**]	ND (<5.8) [**5.2**]	ND (<5.8) [ND (<4.4)]	ND (<5.8) [ND (<4.4)]	ND (<12) [ND (<8.8)]	ND (<5.8) to ND (<58) [ND (<4.4) to ND (<44)]	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)
B-6 D 3.5-4.0	11/23/10	B-6	3.5 to 4.0	7.85	ND (<0.27)	**2.3**	ND (<64)	ND (<64)	ND (<64)	[ND (<55)]	[ND (<55)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<11)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<11)]	[ND (<5.5) to ND (<55)]	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)
B-6 D 5.5-6.0	11/23/10	B-6	5.5 to 6.0	8.04	ND (<0.36) [ND (<0.30)]	ND (<1.4)	ND (<72)	ND (<73)	ND (<73)	ND (<72) [ND (<61)]	ND (<72) [ND (<61)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<14) [ND (<12)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<7.2) [ND (<6.1)]	ND (<14) [ND (<12)]	ND (<7.2) to ND (<72) [ND (<6.1) to ND (<61)]	ND (<7.2)	ND (<7.2)	ND (<7.2)	ND (<7.2)	ND (<7.2)	ND (<7.2)	ND (<7.2)	ND (<7.2)
B-6 D 7.5-8.0	11/23/10	B-6	7.5 to 8.0	7.77	ND (<0.46)	**5,400**	**11,000**	**6,700**	ND (<1,400)	[**380**]	[ND (<93)]	[ND (<9.3)]	[ND (<9.3)]	[ND (<19)]	[ND (<9.3)]	[**13**]	[ND (<9.3)]	[ND (<9.3)]	[ND (<9.3)]	[ND (<9.3)]	[ND (<19)]	[ND (<9.3) to ND (<93)]	ND (<140)	ND (<140)	**430**	ND (<140)	ND (<140)	ND (<140)	**310**	ND (<140)
B-6 D 12.5-13.0	11/23/10	B-6	12.5 to 13.0	8.79	ND (<0.22)	ND (<1.2)	ND (<58)	ND (<57)	ND (<57)	[ND (<43)]	[ND (<43)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<8.6)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<4.3)]	[ND (<8.6)]	[ND (<4.3) to ND (<43)]	ND (<5.7)	ND (<5.7)	ND (<5.7)	ND (<5.7)	ND (<5.7)	ND (<5.7)	ND (<5.7)	ND (<5.7)
B-7 D 5.5-6.0	11/23/10	B-7	5.5 to 6.0	8.30	ND (<0.32) [ND (<0.28)]	**1.5**	ND (<64)	ND (<64)	ND (<64)	ND (<64) [ND (<56)]	ND (<64) [ND (<56)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<13) [ND (<11)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<6.4) [ND (<5.6)]	ND (<13) [ND (<11)]	ND (<6.4) to ND (<64) [ND (<5.6) to ND (<56)]	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	**6.6**	**6.6**	ND (<6.4)	ND (<6.4)
B-7 D 7.5-8.0	11/23/10	B-7	7.5 to 8.0	7.87	ND (<0.44)	**4.1**	ND (<79)	**720**	ND (<390)	[**160**]	[ND (<88)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<18)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<8.8)]	[ND (<18)]	[ND (<8.8) to ND (<88)]	ND (<7.9)	ND (<7.9)	ND (<7.9)	ND (<7.9)	ND (<7.9)	ND (<7.9)	ND (<7.9)	ND (<7.9)
B-7 D 8.5-9.0	11/23/10	B-7	8.5 to 9.0	8.08	ND (<0.32) [ND (<0.25)]	ND (<1.3)	ND (<65)	ND (<64)	ND (<64)	**77** [ND (<50)]	ND (<63) [ND (<50)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<13) [ND (<10)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<6.3) [ND (<5.0)]	ND (<13) [ND (<10)]	ND (<6.3) to ND (<63) [ND (<5.0) to ND (<50)]	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)
B-7 D 11.5-12.0	11/23/10	B-7	11.5 to 12.0	9.30	ND (<0.28) [ND (<0.23)]	ND (<1.2)	ND (<58)	ND (<58)	ND (<58)	ND (<57) [ND (<46)]	ND (<57) [ND (<46)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<11) [ND (<9.1)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<5.7) [ND (<4.6)]	ND (<11) [ND (<9.1)]	ND (<5.7) to ND (<57) [ND (<4.6) to ND (<46)]	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)
B-8 D 5.5-6.0	11/22/10	B-8	5.5 to 6.0	7.77 H	ND (<0.27) [ND (<0.23)] H	ND (<1.2)	ND (<59)	ND (<59)	ND (<59)	**89** [**53**] H	ND (<55) [ND (<45)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<11) [ND (<9.0)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<5.5) [ND (<4.5)] H	ND (<11) [ND (<9.0)] H	ND (<5.5) to ND (<55) [ND (<4.5) to ND (<45)] H	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-8 D 7.5-8.0	11/22/10	B-8	7.5 to 8.0	8.30 H	ND (<0.35) [ND (<0.37)] H	ND (<1.5)	ND (<76)	ND (<76)	ND (<76)	**570*** [ND (<74)] H	**110** [ND (<74)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<14) [ND (<15)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<7.0) [ND (<7.4)] H	ND (<14) [ND (<15)] H	ND (<7.0) to ND (<70) [ND (<7.4) to ND (<74)] H	ND (<7.6)	ND (<7.6)	ND (<7.6)	ND (<7.6)	ND (<7.6)	ND (<7.6)	ND (<7.6)	ND (<7.6))
B-8 D 13.5-14.0	11/22/10	B-8	13.5 to 14.0	8.84 H	ND (<0.28) [ND (<0.25)] H	ND (<1.2)	ND (<58)	ND (<58)	ND (<58)	ND (<56) [ND (<50)] H	ND (<56) [ND (<50)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<11) [ND (<10)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<5.6) [ND (<5.0)] H	ND (<11) [ND (<10)] H	ND (<5.6) to ND (<56) [ND (<5.0) to ND (<50)] H	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-9 D 5.0-5.5	11/22/10	B-9	5.0 to 5.5	7.86 H	ND (<0.30) [ND (<0.32)] H	ND (<1.2)	ND (<60)	ND (<60)	ND (<60)	ND (<60) [ND (<64)] H	ND (<60) [ND (<64)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<12) [ND (<13)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<6.0) [ND (<6.4)] H	ND (<12) [ND (<13)] H	ND (<6.0) to ND (<60) [ND (<6.4) to ND (<64)] H	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)
B-9 D 7.5-8.0	11/22/10	B-9	7.5 to 8.0	8.12 H	ND (<0.38) H	**1,500**	**4,100**	**4,900**	ND (<1,600)	[**280**] H	[**80**] H	[**16**] H	[ND (<7.6)] H	[ND (<15)] H	[ND (<7.6)] H	[ND (<7.6)] H	[ND (<7.6)] H	[ND (<7.6)] H	[ND (<7.6)] H	[ND (<7.6)] H	[ND (<15)] H	[ND (<7.6) to ND (<76)] H	ND (<39)	ND (<39)	**180**	**41**	**63**	ND (<39)	**49**	ND (<39)
B-9 D 13.5-14.0	11/22/10	B-9	13.5 to 14.0	8.61 H	ND (<0.28) [ND (<0.23)] H	ND (<1.2)	ND (<59)	ND (<59)	ND (<59)	ND (<55) [ND (<46)] H	ND (<55) [ND (<46)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<11) [ND (<9.2)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<11) [ND (<9.2)] H	ND (<5.5) to ND (<55) [ND (<4.6) to ND (<46)] H	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-10 D 5.5-6.0	11/22/10	B-10	5.5 to 6.0	7.88 H	ND (<0.31) [ND (<0.34)] H	ND (<1.3)	ND (<67)	ND (<67)	ND (<67)	**71** [ND (<68)] H	ND (<62) [ND (<68)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<12) [ND (<14)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<6.2) [ND (<6.8)] H	ND (<12) [ND (<14)] H	ND (<6.2) to ND (<62) [ND (<6.8) to ND (<68)] H	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)	ND (<6.6)
B-10 D 8.0-8.5	11/22/10	B-10	8.0 to 8.5	5.38 H	ND (<0.33) [ND (<0.28)] H	**37**	**100**	ND (<68)	ND (<68)	**200** [**69**] H	ND (<65) [ND (<55)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<13) [ND (<11)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<6.5) [ND (<5.5)] H	ND (<13) [ND (<11)] H	ND (<6.5) to ND (<65) [ND (<5.5) to ND (<55)] H	**40**	**18**	**54**	**35**	**32**	**20**	**26**	ND (<14)
B-10 D 13.5-14.0	11/22/10	B-10	13.5 to 14.0	8.20 H	ND (<0.28) [ND (<0.21)] H	ND (<1.2)	ND (<58)	ND (<58)	ND (<58)	ND (<55) [ND (<43)] H	ND (<55) [ND (<43)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<11) [ND (<8.6)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<5.5) [ND (<4.3)] H	ND (<11) [ND (<8.6)] H	ND (<5.5) to ND (<55) [ND (<4.3) to ND (<43)] H	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)
B-11 D 6.0-6.5	11/22/10	B-11	6.0 to 6.5	7.48	ND (<0.26)	**12**	ND (<60)	ND (<60)	ND (<60)	[ND (<53)]	[ND (<53)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<11)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<5.3)]	[ND (<11)]	[ND (<5.3) to ND (<53)]	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)	ND (<6.0)
B-11 D 7.5-8.0	11/22/10	B-11	7.5 to 8.0	6.26	ND (<1.2) [ND (<0.33)] H	**3,400**	**7,700**	ND (<720)	ND (<720)	**240** [**170**] H	ND (<240) [ND (<66)] H	ND (<24) [ND (<6.6)] H	ND (<24) [**7.1**] H	ND (<49) [**23**] H	ND (<24) [ND (<6.6)] H	ND (<24) [ND (<6.6)] H	ND (<24) [ND (<6.6)] H	ND (<24) [ND (<6.6)] H	**41** [**33**] H	ND (<24) [**13**] H	ND (<49) [ND (<13)] H	ND (<24) to ND (<240) [ND (<6.6) to ND (<66)] H	ND (<18,000)	ND (<18,000)	ND (<18,000)	ND (<18,000)	ND (<18,000)	ND (<18,000)	ND (<18,000)	ND (<18,000)
B-11 D 16.0-16.5	11/22/10	B-11	16.0 to 16.5	8.71 H	ND (<0.27) [ND (<0.23)] H	ND (<1.1)	ND (<56)	ND (<55)	ND (<55)	ND (<54) [ND (<45)] H	ND (<54) [ND (<45)] H	ND (<5.4) [ND (<4.5)] H	ND (<5.4) [ND (<4.5)] H	ND (<11) [ND (<9.1)] H	ND (<5.4) [**5.0**] H	ND (<5.4) [ND (<4.5)] H	ND (<5.4) [ND (<4.5)] H	ND (<5.4) [ND (<4.5)] H	ND (<5.4) [ND (<4.5)] H	ND (<5.4) [ND (<4.5)] H	ND (<11) [ND (<9.1)] H	ND (<5.4) to ND (<54) [ND (<4.5) to ND (<45)]	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)
B-12 D 5.5-6.0	11/23/10	B-12	5.5 to 6.0	7.89	ND (<0.25)	ND (<1.1)	ND (<57)	ND (<56)	ND (<56)	[ND (<49)]	[ND (<49)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<9.9)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<4.9)]	[ND (<9.9)]	[ND (<4.9) to ND (<49)]	ND (<5.6)	ND (<5.6)	ND (<5.6)	ND (<5.6)	ND (<5.6)	ND (<5.6)	ND (<5.6)	ND (<5.6)
B-12 D 8.0-8.5	11/23/10	B-12	8.0 to 8.5	6.49	ND (<0.38)	**1,500**	**2,700**	ND (<79)	ND (<79)	[**420**]	[**100**]	[ND (<7.7)]	[ND (<7.7)]	[ND (<15)]	[ND (<7.7)]	[ND (<7.7)]	[ND (<7.7)]	[ND (<7.7)]	[ND (<7.7)]	[ND (<7.7)]	[ND (<15)]	[ND (<7.7) to ND (<77)]	ND (<79)	**140**	**220**	ND (<79)	ND (<79)	**120**	ND (<79)	ND (<79)
B-12 D 13.5-14.0	11/23/10	B-12	13.5 to 14.0	8.44	ND (<0.28) [ND (<0.23)]	ND (<1.2)	ND (<60)	ND (<59)	ND (<59)	ND (<56) [ND (<46)]	ND (<56) [ND (<46)]	ND (<5.6) [ND (<4.6)]	ND (<5.6) [ND (<4.6)]	ND (<11) [ND (<9.2)]	ND (<5.6) [**4.9**]	ND (<5.6) [ND (<4.6)]	ND (<5.6) [ND (<4.6)]	ND (<5.6) [ND (<4.6)]	ND (<5.6) [ND (<4.6)]	ND (<5.6) [ND (<4.6)]	ND (<11) [ND (<9.2)]	ND (<5.6) to ND (<56) [ND (<4.6) to ND (<46)]	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-13 D 5.5-6.0	11/23/10	B-13	5.5 to 6.0	8.23	ND (<0.27)	ND (<1.1)	ND (<55)	ND (<55)	ND (<55)	[ND (<55)]	[ND (<55)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<11)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<5.5)]	[ND (<11)]	[ND (<5.5) to ND (<55)]	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)	ND (<5.5)
B-13 D 8.0-8.5	11/23/10	B-13	8.0 to 8.5	7.96	ND (<0.88) [ND (<0.28)] H	**74**	**150**	**38,000**	ND (<35,000)	**240** [ND (<57)] H	ND (<180) [ND (<57)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<35) [ND (<11)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<18) [ND (<5.7)] H	ND (<35) [ND (<11)] H	ND (<18) to ND (<180) [ND (<5.7) to ND (<57)] H	ND (<14)	ND (<14)	ND (<14)	ND (<14)	ND (<14)	ND (<14)	ND (<14)	ND (<14)
B-3 D 8.0-8.5[1]	11/23/10	B-13	8.0 to 8.5	7.98	ND (<0.29) [ND (<0.27)] H	ND (<1.2)	ND (<62)	ND (<62)	ND (<62)	ND (<58) [ND (<53)] H	ND (<58) [ND (<53)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<12) [ND (<11)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<5.8) [ND (<5.3)] H	ND (<12) [ND (<11)] H	ND (<5.8) to ND (<58) [ND (<5.3) to ND (<53)] H	ND (<6.2)	ND (<6.2)	ND (<6.2)	ND (<6.2)	ND (<6.2)	ND (<6.2)	ND (<6.2)	ND (<6.2)
B-13 D 13.5-14.0	11/23/10	B-13	13.5 to 14.0	9.06	ND (<0.28) [ND (<0.24)] H	ND (<1.2)	ND (<59)	ND (<60)	ND (<60)	ND (<56) [ND (<48)] H	ND (<56) [ND (<48)] H	ND (<5.6) [ND (<4.8)] H	ND (<5.6) [ND (<4.8)] H	ND (<11) [ND (<9.6)] H	ND (<5.6) [**22**] H	ND (<5.6) [ND (<4.8)] H	ND (<5.6) [ND (<4.8)] H	ND (<5.6) [ND (<4.8)] H	ND (<5.6) [ND (<4.8)] H	ND (<5.6) [ND (<4.8)] H	ND (<11) [ND (<9.6)] H	ND (<5.6) to ND (<56) [ND (<4.8) to ND (<48)] H	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-14 D 5.5-6.0	11/23/10	B-14	5.5 to 6.0	8.17	ND (<0.27) [ND (<0.28)] H	ND (<1.2)	ND (<59)	ND (<59)	ND (<59)	ND (<55) [ND (<55)] H	ND (<55) [ND (<55)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<11) [ND (<11)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<5.5) [ND (<5.5)] H	ND (<11) [ND (<11)] H	ND (<5.5) to ND (<55) [ND (<5.5) to ND (<55)] H	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)	ND (<5.9)
B-3 D 5.5-6.0[2]	11/23/10	B-14	5.5 to 6.0	8.02	ND (<0.31) [ND (<0.26)] H	ND (<1.3)	ND (<64)	ND (<63)	ND (<63)	ND (<62) [ND (<52)] H	ND (<62) [ND (<52)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<12) [ND (<10)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<6.2) [ND (<5.2)] H	ND (<12) [ND (<10)] H	ND (<6.2) to ND (<62) [ND (<5.2) to ND (<52)] H	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)
B-14 D 8.0-8.5	11/23/10	B-14	8.0 to 8.5	7.81	ND (<0.32) [ND (<0.52)] H	**26**	**68**	**770**	ND (<330)	**240** [**190**] H	ND (<64) [ND (<100)] H	ND (6.4) [ND (<10)] H	ND (<6.4) [ND (<10)] H	ND (<13) [ND (<21)] H	ND (6.4) [ND (<10)] H	ND (6.4) [ND (<10)] H	ND (6.4) [ND (<10)] H	ND (6.4) [ND (<10)] H	ND (6.4) [ND (<10)] H	ND (6.4) [ND (<10)] H	**14** [ND (<21)] H	ND (<6.4) to ND (<64) [ND (<10) to ND (<100)] H	ND (<6.6)	ND (<6.6)	**12**	**13**	ND (<6.6)	ND (<6.6)	**10**	ND (<6.6)
B-14 D 10-10.5	11/23/10	B-14	10.0 to 10.5	8.38	ND (<0.30) [ND (<0.34)] H	**1.6**	ND (<63)	ND (<63)	ND (<63)	**70** [ND (<68)] H	ND (<61) [ND (<68)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<12) [ND (<14)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<6.1) [ND (<6.8)] H	ND (<12) [ND (<14)] H	ND (<6.1) to ND (<61) [ND (<6.8) to ND (<68)] H	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)
B-3 D 10.0-10.5[3]	11/23/10	B-14	10.0 to 10.5	8.97	ND (<0.29) [ND (<0.35)] H	ND (<1.2)	ND (<60)	ND (<60)	ND (<60)	ND (<58) [ND (<69)] H	ND (<58) [ND (<69)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<12) [ND (<14)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<5.8) [ND (<6.9)] H	ND (<12) [ND (<14)] H	ND (<5.8) to ND (<58) [ND (<6.9) to ND (<69)] H	ND (<6.0)	**54**	**160**	**200**	**210**	**180**	**180**	ND (<6.0)
B-14 D 14.0-14.5	11/23/10	B-14	14.0 to 14.5	8.41	ND (<0.27) [ND (<0.23)] H	ND (<1.2)	ND (<58)	ND (<58)	ND (<58)	ND (<55) [ND (<46)] H	ND (<55) [ND (<46)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<11) [ND (<9.2)] H	ND (<5.5) [**16**] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<5.5) [ND (<4.6)] H	ND (<11) [ND (<9.2)] H	ND (<5.5) to ND (<55) [ND (<4.6) to ND (<46)] H	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)	ND (<5.8)
B-15 D 5.5-6.0	01/20/11	B-15	5.5 to 6.0	NA	NA	NA	NA	NA	NA	**280** [**300**] H	ND (<68) [**65**] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<14) [ND (<12)] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<6.8) [ND (<6.0)] H	ND (<14) [ND (<12)] H	ND (<6.8) to ND (<68) [ND (<6.0) to ND (<60)] H	NA	NA	NA	NA	NA	NA	NA	NA

Table 1:
Soil Organic Analytical Results

Sample ID	Sample Date	Field Point	Sample Depth	pH	TPHg	TPHd	TPHmo	PCBs		Volatile Organic Compounds, VOCs [8]													Polyaromatic Hydrocarbons, PAHs							
								PCB-1260	Other PCBs	Acetone	2-Butanone (MEK)	Carbon disulfide	4-Isopropyl-toluene	Naphthalene	PCE	Toluene	TCE	CFC-113	1,2,4-TMB	1,3,5-TMB	Xylenes, Total	Other VOCs (6)	Naphthalene	Phenanthrene	Chrysene	Benzo[a] pyrene	Benzo[b] fluoranthene	Fluoranthene	Pyrene	Other PAHs
			ft bfs	SU	mg/Kg	mg/Kg	mg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg	µg/Kg
B-15 D 8.0-8.5 (4)	01/20/11	B-15	8.0 to 8.5	NA	NA	NA	NA	NA	NA	ND (<57) [ND (<47)] H	ND (<57) [ND (<47)] H	ND (<5.7) [ND (<4.7)] H	ND (<5.7) [ND (<4.7)] H	ND (<11) [ND (<9.4)] H	ND (<5.7) [**68**] H	ND (<5.7) [ND (<4.7)] H	ND (<5.7) [**220**] H	ND (<5.7) [ND (<4.7)] H	ND (<5.7) [ND (<4.7)] H	ND (<5.7) [ND (<4.7)] H	ND (<11) [ND (<9.4)] H	ND (<5.7) to ND (<57) [ND (<4.7) to ND (<47)] H	NA	NA	NA	NA	NA	NA	NA	NA
MW-1D6.0	06/04/12	MW-1	6.0 to 6.5	7.64	ND (<0.34)	**3.5**	ND (<65)	ND (<64)	ND (<64)	ND (<68)	ND (<68)	ND (<6.8)	ND (<6.8)	ND (<14)	ND (<6.8)	ND (<6.8)	ND (<6.8)	ND (<6.8)	ND (<6.8)	ND (<6.8)	ND (<14)	ND (<6.8) to ND (<68)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)	ND (<6.4)
MW-1D7.5	06/04/12	MW-1	7.5 to 8.0	7.73	ND (<0.31)	**18**	ND (<77)	**260**	ND (<75)	**81**	ND (<63)	ND (<6.3)	ND (<6.3)	ND (<13)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<6.3)	ND (<13)	ND (<6.3) to ND (<63)	ND (<7.7)	**9.9**	**9.3**	ND (<7.7)	**12**	**16**	**14**	ND (<7.7)
MW-1D8.5	06/04/12	MW-1	8.5 to 9.0	8.70	ND (<0.23)	**1.8**	ND (<60)	ND (<61)	ND (<61)	ND (<45)	ND (<45)	ND (<4.5)	ND (<4.5)	ND (<9.0)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<4.5)	ND (<9.0)	ND (<4.5) to ND (<45)	ND (<6.1)	ND (<6.1)	ND (<6.1)	ND (<6.1)	ND (<6.1)	ND (<6.1)	ND (<6.1)	ND (<6.1)
MW-1D20(5)	06/04/12	MW-1	8.0 to 8.5	7.53	ND (<0.37)	**5.5**	ND (<65)	ND (<65)	ND (<65)	**140**	ND (<74)	ND (<7.4)	ND (<7.4)	ND (<15)	ND (<7.4)	ND (<7.4)	ND (<7.4)	ND (<7.4)	ND (<7.4)	ND (<7.4)	ND (<15)	ND (<7.4) to ND (<74)	ND (<6.5)	ND (<6.5)	ND (<6.5)	ND (<6.5)	ND (<6.5)	ND (<6.5)	ND (<6.5)	ND (<6.5)
Environmental Risk Screening Levels (7)																														
OEHHA CHHSLs (Commercial/Industrial Land Use)					NE	NE	NE	300*	300*	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	130*	NE	NE	NE	NE
OEHHA CHHSLs (Residential Land Use)					NE	NE	NE	89	89	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	38	NE	NE	NE	NE
U.S. EPA Region 9 RSLs (Industrial Soil)					NE	NE	NE	740	Varies by compound	630,000,000	200,000,000	3,700,000*	NE	18,000	110,000	45,000,000	6,400	180,000,000*	260,000*	10,000,000*	2,700,000*	Varies by compound	18,000	NE	210,000	210	2,100	22,000,000	17,000,000	Varies by compound
U.S. EPA Region 9 RSLs (Residential Soil)					NE	NE	NE	220	Varies by compound	61,000,000	28,000,000	820,000	NE	3,600	22,000	5,000,000	910	43,000,000	62,000	780,000	630,000	Varies by compound	3,600	NE	15,000	15	150	2,300,000	1,700,000	Varies by compound
DTSC HERO PRGs (Industrial Soil)					NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	1,300	NE	NE	NE	NE	69,700	NE	Varies by compound	NE	NE	13,000	NE	NE	NE	NE	Varies by compound
DTSC HERO PRGs (Residential Soil)					NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	480	NE	NE	NE	NE	21,300	NE	Varies by compound	NE	NE	3,800	NE	NE	NE	NE	Varies by compound
RWQCB ESLs (Table A-1, Residential or Unrestricted Land Use, Groundwater Potential Source of Drinking Water, Shallow Soil)					100	100	100	220	220	500	4,500	NE	NE	1,200	550	2,900	460	NE	NE	NE	2,300	Varies by compound	1,200	11,000	3,800	38	380	40,000	85,000	Varies by compound
RWQCB ESLs (Table A-2, Commercial/Industrial Land Use, Groundwater Potential Source of Drinking Water, Shallow Soil)					500*	110*	500*	740	740	500*	4,500*	NE	NE	1,200*	700*	2,900*	460*	NE	NE	NE	2,300	Varies by compound	1,200*	11,000*	13,000*	130	1,300*	40,000*	85,000*	Varies by compound
RWQCB ESLs (Table C-1, Residential or Unrestricted Land Use, Groundwater Potential Source of Drinking Water, Deep Soil)					500	110	500	220	220	500	4,500	NE	NE	1,200	550	2,900	460	NE	NE	NE	2,300	Varies by compound	1,200	11,000	3,800	38	380	60,000	85,000	Varies by compound
RWQCB ESLs (Table C-2, Commercial/Industrial Land Use, Groundwater Potential Source of Drinking Water, Deep Soil)					770	110	1,000	740	740	500	4,500	NE	NE	1,200	700	2,900	460	NE	NE	NE	2,300	Varies by compound	1,200	11,000	13,000	130	1,300	60,000	85,000	Varies by compound

Table Notes:

General:

Depth: Sample depth in feet below top of floor surface, feet bfs
µg/kg: Micrograms per kilogram, 09/09 data reported as wet weight, 11/2010 and 01/2011 data reported as dry-weight corrected
mg/kg: Milligrams per kilogram, 09/09 data reported as wet weight, 11/2010 and 01/2011 data reported as dry-weight corrected
ND (<2.5): Not detected at or above the laboratory reporting limit
NE: Not established
NA: Not analyzed

TPH: Total petroleum hydrocarbons
TPHg: Gasoline range organics (C5-C12)
TPHd: Diesel range organics (C10-C28)
TPHmo: Motor oil range organics (C24-C36)
PAHs: Polyaromatic Hydrocarbons by EPA Method 8270C
PCBs: Polychlorinated Biphenyls by EPA Method 8082

VOCs: Volatile Organic Compounds by EPA Method 8260B
CFC-113: 1,1,2-trichloro-1,2,2-trifluoroethane
PCE: Tetrachloroethene
TCE: Trichloroethene
1,2,4-TMB: 1,2,4-Trimethylbenzene
1,3,5-TMB: 1,3,5-Trimethylbenzene

Detailed:

(1) Sample B-3 D 8.0-8.5 is a duplicate sample of B-13 D 8.0-8.5
(2) Sample B-3 D 5.5-6.0 is a duplicate sample of B-14 D 5.5-6.0
(3) Sample B-3 D 10.0-10.5 is a duplicate sample of B-14 D 10-10.5; B-3 D 10.0-10.5 also contained, Acenaphthylene (42 µg/Kg), Anthracene (35 µg/Kg), Benzo[a]anthracene (160 µg/Kg), Benzo[k]fluoranthene (83 µg/Kg), Benzo[g,h,I]perylene (76 µg/Kg), Indeno[1,2,3-cd]pyrene (82 µg/Kg), Dibenz(a,h)anthracene (27 µg/Kg).
(4) Sample B-15 D 8.0-8.5 also contained, cis-1,2-Dichloroethene (63 µg/Kg) and Vinyl chloride (110 µg/Kg). Commercial RSLs and ESLs for cis-1,2-Dichloroethene (2,000,000 ug/kg, 190 ug/kg) and Vinyl Chloride (1700 ug/kg, 85 ug/kg).
(5) Sample MW-1D20 is a duplicate sample of MW-1D7.5
(6) VOCs sampled but not detected above laboratory reporting limits. Reporting limits varied as indicated in parentheses. For reporting limits for specific VOCs, refer to the lab reports from each sampling event (referenced in report text).
(7) <u>**Environmental Risk Screening Levels**</u>

OEHHA CHHSLs: California Human Health Screening Levels (CHHSLs) published by the California Environmental Protection Agency (CAL-EPA, January 2005, revised for Lead in September 2009):
"Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties."
Developed by the Office of Environmental Health Hazard Assessment (OEHHA), CHHSLs used to screen sites for human health concerns where chemical releases have occurred.

EPA Region 9 RSLs: Regional Screening Levels (RSLs) published by the Region 9, United States Environmental Protection Agency (USEPA, October 2004, November 2010, May 2013, November 2013):
RSLs provided are chemical-specific concentrations for individual contaminants in soil that may warrant further investigation or site cleanup.

DTSC HERO: Table 1. US EPA Region 9 Preliminary Remediation Goals (PRGs) (2004) and "Cal-Modified" 2004 US EPA Region 9 PRGs, California Department of Toxic Substances Control Office of Human and Ecological Risk, Human Health Risk Assessment Note Number: 3, May 21, 2013)

RWQCB ESLs: Environmental Screening Levels (ESLs) were taken from the San Francisco Bay Region, Regional Water Quality Control Board (RWQCB-SF):
"*Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* ," Interim Final, November 2007, May 2008, Feb 2013, May 2013, December 2013.
For the purpose of this document, soil refers to any unlithified material in the unsaturated zone that is situated above the capillary fringe of the shallowest saturated unit.
"Shallow soil" defined as less than or equal to three (3) meters below ground surface. "Deep Soils" defined as greater than three (3) meters below ground surface. ESLs provided for scenario where groundwater IS considered a current or potential drinking water resource.
In the convention of the RWQCB, ESLs should be compared to chemical concentrations in soil reported on a dry-weight basis.

(8) <u>**VOC Results from 2010 Investigation**</u>
For most samples from the 2010 GEI investigation, results are provided from two different method analyses. The top result represents analysis by EPA Method 8260B of unpreserved soil.
The bottom result (presented in brackets) represents analysis by EPA Method 8260B, with soil preparation by Method 5035. These samples were analyzed beyond their specified hold time, as noted by the 'H' in the results.

H — Sample was prepped or analyzed beyond the specified holding time.
[ ] — EPA Method 8260B with preparation 5035.
81 — **Bold** font indicates a detection above laboratory reporting limits
81 — Highlighted gray indicates reported value is above the yellow shaded residential screening level
89 — Highlighted yellow indicates the residential screening level used to highlight data gray

Table 2.
Groundwater Organic Analytical Results

Sample ID	Sample Date	Field Point	pH	PCBs	Total Petroleum Hydrocarbons, TPH			Volatile Organic Compounds, VOCs													Polyaromatic Hydrocarbons, PAHs		
					TPHg	TPHd	TPHmo	MTBE	CCl4	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	PCE	TCE	CFC-11	CFC-113	Vinyl Chloride	Other VOCs	Naphthalene	Fluorene	Other PAHs
			SU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
DP-02-WSP 2	09/28/09	WSP-2	8.16	ND (<0.53)	**130**	ND (<64)	ND (<380)	**1.7**	ND (<0.50)	**8.4**	**1.6**	**23**	**3.6**	**11**	**68**	**99**	**44**	**51**	**1.9**	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
DP-04-WSP 3 [1]	09/28/09	WSP-3	7.41	ND (<0.52)	**310**	**21,000**	**62,000**	ND (<0.50)	ND (<0.50)	**11**	ND (<0.50)	**21**	**0.97**	**3.2**	**310**	**24**	**30**	**19**	**0.83**	ND (<0.50 to <50)	ND (<0.11)	ND (<0.11)	ND (<0.11)
DP-04-WSP 4 [2]	09/28/09	WSP-4	7.49	ND (<0.62)	ND (<50)	ND (<72)	ND (<430)	ND (<0.50)	ND (<0.50)	**4.6**	ND (<0.50)	**4.7**	ND (<0.50)	ND (<0.50)	**29**	**0.65**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
B-5	11/22/10	B-5	7.39	ND (<0.55)	**250**	ND (<53)	ND (<320)	**1.9**	ND (<0.50)	**9.1**	**1.5**	**22**	**3.1**	**11**	**150**	**110**	**44**	**52**	**1.8**	ND (<0.50 to <50)	ND (<0.11)	**0.19**	ND (<0.11)
B-6	11/23/10	B-6	7.52	ND (<0.52)	**230**	ND (<52)	ND (<310)	**1.4**	ND (<0.50)	**9.1**	**1.4**	**23**	**3.0**	**9.9**	**120**	**93**	**44**	**50**	**1.6**	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
B-7	11/23/10	B-7	7.34	ND (<0.54)	**170**	ND (<51)	ND (<310)	**0.91**	**1.5**	**9.9**	**0.94**	**19**	**1.9**	**6.7**	**120**	**56**	**27**	**30**	**1.1**	ND (<0.50 to <50)	ND (<0.10)	**0.10**	ND (<0.10)
B-4 [8]	11/23/10	B-7	7.36	ND (<0.52)	**230**	ND (<52)	ND (<310)	**0.82**	**2.9**	**11**	**0.93**	**20**	**2.0**	**6.9**	**180**	**65**	**31**	**36**	**1.0**	ND (<0.50 to <50)	ND (<0.10)	**0.11**	ND (<0.10)
B-8	11/22/10	B-8	7.30	ND (<0.54)	**82**	ND (<51)	ND (<300)	ND (<0.50)	**48**	**21**	ND (<0.50)	**5.2**	ND (<0.50)	ND (<0.50)	**61**	**1.3**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	ND (<0.11)	ND (<0.11)	ND (<0.11)
B-9	11/22/10	B-9	7.48 H	ND (<0.52)	ND (<50)	ND (<55)	ND (<330)	ND (<0.50)	**9.4**	**6.8**	ND (<0.50)	**4.9**	ND (<0.50)	ND (<0.50)	**52**	**0.56**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	ND (<0.11)	ND (<0.11)	ND (<0.11)
B-10	11/22/10	B-10	7.48 H	ND (<0.59)	ND (<50)	ND (<55)	ND (<330)	ND (<0.50)	**2.3**	**3.1**	ND (<0.50)	**4.1**	ND (<0.50)	ND (<0.50)	**4.6**	**0.52**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	ND (<0.11)	ND (<0.11)	ND (<0.11)
B-11	11/22/10	B-11	7.56	ND (<0.52)	**51**	ND (<53)	ND (<320)	ND (<0.50)	**9.9**	**6.8**	ND (<0.50)	**4.8**	ND (<0.50)	ND (<0.50)	**55**	**0.55**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	ND (<0.14)	ND (<0.14)	ND (<0.14)
B-12	11/23/10	B-12	7.26	ND (<0.56)	ND (<250)	ND (<52)	ND (<310)	ND (<0.50)	**2.6**	**13**	ND (<0.50)	**11**	ND (<0.50)	**1.1**	**170**	**9.5**	**12**	**7.0**	ND (<0.50)	ND (<0.50 to <50)	**0.10**	ND (<0.10)	ND (<0.10)
B-13	11/23/10	B-13	7.49	ND (<0.52)	ND (<1,000)	ND (<51)	ND (<310)	ND (<10)	ND (<0.50)	**11**	**1.0**	**25**	**2.4**	**7.4**	**730**	**59**	**53**	**42**	**1.3**	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
B-14	11/23/10	B-14	7.54	ND (<0.53)	**220**	ND (<48)	ND (<290)	**1.2**	ND (<0.50)	**8.8**	**1.2**	**22**	**2.3**	**8.3**	**150**	**57**	**27**	**31**	**1.2**	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
B-15	01/20/11	B-15	NA	NA	ND (<2,500)	NA	NA	ND (<0.50)	ND (<0.50)	**2.7**	ND (<0.50)	**14**	ND (<0.50)	**1.1**	**1,600**	**9.5**	**11**	**2.7**	ND (<0.50)	ND (<0.50 to <50)	NA	NA	NA
B-2 [9]	01/20/11	B-15	NA	NA	ND (<2,500)	NA	NA	ND (<0.50)	ND (<0.50)	**2.7**	ND (<0.50)	**13**	ND (<0.50)	**1.1**	**1,700**	**10**	**14**	**3.5**	**0.52**	ND (<0.50 to <50)	NA	NA	NA
B-16 [3]	01/20/11	B-16	NA	NA	ND (<50)	NA	NA	**12**	**1.4**	**1.7**	ND (<0.50)	**7.7**	**0.59**	**2.3**	ND (<0.50)	**28**	ND (<1.0)	ND (<0.50)	ND (<0.50)	ND (<0.50 to <50)	NA	NA	NA
B-17	01/20/11	B-17	NA	NA	ND (<50)	NA	NA	ND (<0.50)	ND (<0.50)	ND (<1.0)	ND (<0.50)	**5.8**	ND (<0.50)	**1.1**	ND (<0.50)	ND (<0.50)	ND (<1.0)	ND (<0.50)	**4.9**	ND (<0.50 to <50)	NA	NA	NA
MW-1-GW	06/19/12	MW-1	NA	ND (<0.53)	**200**	ND (<52)	ND (<100)	**1.2**	**5.7**	**14**	**0.78**	**19**	**1.7**	**6.0**	**150**	**49**	**24**	**28**	**1.0**	ND (<0.50 to <50)	ND (<0.11)	ND (<0.11)	ND (<0.11)
MW-1A-GW [7]	06/19/12	MW-1	NA	ND (<0.52)	**200**	ND (<52)	ND (<100)	**1.3**	**5.0**	**14**	**0.79**	**18**	**1.8**	**5.7**	**140**	**49**	**24**	**28**	**1.1**	ND (<0.50 to <50)	ND (<0.10)	ND (<0.10)	ND (<0.10)
Environmental Risk Screening Levels (ESLs) [4]																							
Table F-1a ESLs for groundwater, where groundwater IS a current or potential source of drinking water				0.014	100	100	100	5	0.5	80	5	0.5	6	6	5	5	_	_	0.5	Varies by compound	6.1	3.9	Varies by compound
Table E-1 ESLs for groundwater, for Evaluation of Potential Vapor Intrusion				NE	NE	NE	NE	100,000	48	1,700	NE	1,000	130,000	26,000	640	1,300	_	_	18	Varies by compound	1,600	NE	NE
Maximum Contaminant Levels (MCLs) [5]																							
California Primary MCLs for Drinking Water				0.5	NE	NE	NE	13	0.5	NE	5	0.5	6	6	5	5	150	1,200	0.5	Varies by compound	NE	NE	Varies by compound
US EPA MCLs for Drinking Water				0.5	NE	NE	NE	NE	5	NE	NE	5	7	70	5	5	NE	NE	2	Varies by compound	NE	NE	Varies by compound
Regional Screening Levels (RSLs) [6]																							
USEPA Region 9 RSLs for Tap Water				Varies by compound	NE	NE	NE	12	0.39	0.19	2.4	0.15	260	28	9.7	0.44	1,100	53,000	0.015	Varies by compound	0.14	220	Varies by compound

Table Notes:

General:

µg/L: Micrograms per liter
ND (<1): Not detected at or above the laboratory reporting limit
NA: Not analyzed
NE: Not established

TPH: Total petroleum hydrocarbons
TPHg: Gasoline range organics (C5-C12)
TPHd: Desiel range organics (C10-C28)
TPHmo: Motor oil range organics (C24-C36)
VOCs: Volatile organic compounds (VOCs) by EPA Method 8260B
PAHs: Polyaromatic Hydrocarbons (PAHs) by EPA Method 8270C
PCBs: Polychlorinated Biphenyls (PCBs) by EPA Method 8082

MTBE: methyl-tert-butyl ether
cis-1,2-DCE: cis-1,2-Dichloroethene
1,2-DCA: 1,2-Dichloroethane
1,1-DCE: 1,1-Dichloroethene
1,1-DCA: 1,1-Dichloroethane

PCE: Tetrachloroethene
TCE: Trichloroethene
CCl4: Carbon tetrachloride
CFC-11: Trichlorofluoromethane
CFC-113: 1,1,2-Trichloro-1,2,2-trifluoroethane

Detailed:

1 Sample WSP-3 also contained, Toluene (0.56 µg/L), Phenanthrene (0.18 µg/L), Chrysene (0.30 µg/L), Fluoranthene (0.14 µg/L). Table F-1a ESLs for Toluene (40 ug/l), Phenanthrene (4.6 ug/l), Chrysene (0.35 ug/l), Fluoranthene (8 ug/l).

2 Sample WSP-4 also contained, Toluene (0.79 µg/L). Table F-1a ESLs for Toluene (40 ug/l)

3 Sample B-16 also contained, trans-1,2-Dichloroethene (0.51 µg/L). Table F-1a ESLs for trans-1,2-Dichloroethene (10 ug/l).

4 <u>**Environmental Risk Screening Levels**</u>
Environmental Screening Levels (ESLs) were taken from the San Francisco Bay Region, Regional Water Quality Control Board (RWQCB-SF):
"*Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* ," Interim Final, November 2007, May 2008, Feb 2013, May 2013, December 2013.
ESLs for TPHg correspond to TPH (gasolines)
Table F-1a ESLs correspond to groundwater where groundwater IS a current or potential source of drinking water.
Table E-1 ESLs correspond to groundwater for Evaluation of Potential Vapor Intrusion at a Commercial/Industrial Land Use site.

5 Primary Maximum Contaminant Levels (MCLs) for Drinking Water per California Code of Regulations (CCR), Title 22, Chapter 15, Article 5, Section 64444.

6 Regional Screening Levels (RSLs) Tapwater Supporting Table published by the Region 9, United States Environmental Protection Agency (USEPA, October 2004, November 2010, May 2013, November 2013).

7 MW-1A-GW is a duplicate sample of MW-1-GW.

8 B-4 is a duplicate sample of B-7

9 B-2 is a duplicate sample of B-15

H Sample was prepped or analyzed beyond the specified holding time.

290 **Bold** font indicates a detection above laboratory reporting limits
290 Highlight value indicates reported value is above one or more environmental screening levels
0.5 Highlighted yellow indicates the screening level used to highlight data gray

Sample ID	Sample Date	Sample Depth	Boring	Cadmium	Chromium	Lead	Nickel	Zinc
		ft bfs		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DP-01(6.5-7.5)-WSP1	9/28/2009	6.5 to 7.5	WSP-1	ND (<0.32)	**170**	**8.4**	**470**	**38**
DP-02(12.5-13.5)-WSP1	9/28/2009	12.5 to 13.5	WSP-1	**0.98**	**36**	**870**	**34**	**57**
DP-03(15-16)-WSP1	9/28/2009	15.0 to 16.0	WSP-1	ND (<0.32)	**41**	**4.4**	**44**	**30**
DP-03(12.5-13.5)-WSP2	9/28/2009	12.5 to 13.5	WSP-2	ND (<0.32)	**86**	**110**	**150**	**57**
DP-01(8.5-9.5)-WSP3	9/28/2009	8.5 to 9.5	WSP-3	ND (<0.30)	**43**	**54**	**65**	**32**
DP-02(12.5-13.5)-WSP3	9/28/2009	12.5 to 13.5	WSP-3	ND (<0.32)	**35**	**54**	**46**	**26**
DP-03(15-16)-WSP3	9/28/2009	15.0 to 16.0	WSP-3	ND (<0.31)	**37**	**4.0**	**42**	**28**
DP-01(9-10)-WSP4	9/28/2009	9.0 to 10.0	WSP-4	ND (<0.30)	**64**	**20**	**61**	**44**
DP-02(12.5-13.5)-WSP4	9/28/2009	12.5 to 13.5	WSP-4	ND (<0.31)	**82**	**24**	**110**	**40**
DP-03(15-16)-WSP4	9/28/2009	15.0 to 16.0	WSP-4	ND (<0.33)	**45**	**4.9**	**50**	**33**
B-5 D 5.5-6.0	11/22/10	5.5 to 6.0	B-5	ND (<0.67)	**760**	**6.9**	**1,700**	**46**
B-5 D 7.5-8.0	11/22/10	7.5 to 8.0	B-5	ND (<0.68)	**270**	**26**	**740**	**49**
B-5 D 16-16.5	11/22/10	16.0 to 16.5	B-5	ND (<0.59)	**66**	**8.0**	**91**	**47**
B-6 D 3.5-4.0	11/23/10	3.5 to 4.0	B-6	ND (<0.66)	**120**	**16**	**180**	**52**
B-6 D 5.5-6.0	11/23/10	5.5 to 6.0	B-6	ND (<0.72)	**800**	**6.8**	**2,200**	**53**
B-6 D 7.5-8.0	11/23/10	7.5 to 8.0	B-6	ND (<0.68)	**83**	**180**	**120**	**54**
B-6 D 12.5-13.0	11/23/10	12.5 to 13.0	B-6	ND (<0.58)	**44**	**5.5**	**51**	**32**
B-7 D 5.5-6.0	11/23/10	5.5 to 6.0	B-7	ND (<0.61)	**480**	**7.6**	**1,100**	**49**
B-7 D 7.5-8.0	11/23/10	7.5 to 8.0	B-7	**0.85**	**92**	**27**	**78**	**92**
B-7 D 11.5-12.0	11/23/10	11.5 to 12.0	B-7	ND (<0.57)	**71**	**7.4**	**65**	**39**
B-7 D 8.5-9.0	11/23/10	8.5 to 9.0	B-7	ND (<0.63)	**77**	**13**	**78**	**46**
B-8 D 5.5-6.0	11/22/10	5.5 to 6.0	B-8	ND (<0.59)	**60**	**4.7**	**86**	**52**
B-8 D 7.5-8.0	11/22/10	7.5 to 8.0	B-8	ND (<0.80)	**96**	**13**	**60**	**68**
B-8 D 13.5-14.0	11/22/10	13.5 to 14.0	B-8	ND (<0.56)	**57**	**8.1**	**83**	**40**
B-9 D 5.0-5.5	11/22/10	5.0 to 5.5	B-9	ND (<0.57)	**360**	**7.3**	**900**	**44**
B-9 D 7.5-8.0	11/22/10	7.5 to 8.0	B-9	ND (<0.75)	**81**	**140**	**67**	**59**
B-9 D 13.5-14.0	11/22/10	13.5 to 14.0	B-9	ND (<0.58)	**56**	**6.7**	**56**	**36**
Background References [1]								
Scott (1995)*				NE	51.28 (30.5 to 72)	11.43 (6.8 to 16.1)	73.53 (46.4 to 101)	65.27 (47.7 to 82.8)
Bradford et al (1996)**				0.73 (0.05 to 1.70)	49 (23 to 1,579)	21.1 (12.4 to 97.1)	41 (9 to 509)	122 (88 to 236)
Environmental Risk Screening Levels [2]								
OEHHA CHHSLs (Residential Land Use)				1.7	100,000 [3]	80	1,600	23,000
OEHHA CHHSLs (Commercial/Industrial Land Use)				7.5	100,000 [3]	320	16,000	100,000
DTSC HERO PRGs (Residential Soil)				4.0	NE	80	NE	NE
DTSC HERO PRGs (Industrial Soil)				5.1	NE	320	NE	NE

Sample ID	Sample Date	Sample Depth	Boring	Cadmium	Chromium	Lead	Nickel	Zinc
		ft bfs		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
B-10 D 5.5-6.0	11/22/10	5.5 to 6.0	B-10	ND (<0.67)	**430**	**9.2**	**980**	**46**
B-10 D 8.0-8.5	11/22/10	8.0 to 8.5	B-10	ND (<0.69)	**73**	**11**	**72**	**47**
B-10 D 13.5-14.0	11/22/10	13.5 to 14.0	B-10	ND (<0.58)	**44**	**5.2**	**44**	**29**
B-11 D 6.0-6.5	11/22/10	6.0 to 6.5	B-11	ND (<0.58)	**78**	**11**	**130**	**48**
B-11 D 7.5-8.0	11/22/10	7.5 to 8.0	B-11	**1.4**	**110**	**280**	**55**	**110**
B-11 D 16.0-16.5	11/22/10	16.0 to 16.5	B-11	ND (<0.55)	**53**	**5.8**	**53**	**32**
B-12 D 5.5-6.0	11/23/10	5.5 to 6.0	B-12	ND (<0.57)	**240**	**9.5**	**770**	**40**
B-12 D 8.0-8.5	11/23/10	8.0 to 8.5	B-12	ND (<0.80)	**87**	**110**	**84**	**80**
B-12 D 13.5-14.0	11/23/10	13.5 to 14.0	B-12	ND (<0.59)	**49**	**5.8**	**60**	**35**
B-13 D 5.5-6.0	11/23/10	5.5 to 6.0	B-13	ND (<0.53)	**320**	**6.1**	**1,100**	**33**
B-13 D 8.0-8.5	11/23/10	8.0 to 8.5	B-13	**0.80**	**61**	**24**	**49**	**50**
B-3 D 8.0-8.5[5]	11/23/10	8.0 to 8.5	B-13	ND (<0.61)	**51**	**8.8**	**50**	**54**
B-13 D 13.5-14.0	11/23/10	13.5 to 14.0	B-13	ND (<0.57)	**43**	**6.7**	**50**	**35**
B-14 D 5.5-6.0	11/23/10	5.5 to 6.0	B-14	ND (<0.59)	**240**	**8.4**	**570**	**42**
B-3 D 5.5-6.0[6]	11/23/10	5.5 to 6.0	B-14	ND (<0.65)	**460**	**4.4**	**1,400**	**49**
B-14 D 8.0-8.5	11/23/10	8.0 to 8.5	B-14	**0.63**	**66**	**330**	**65**	**88**
B-14 D 10-10.5	11/23/10	10 to 10.5	B-14	ND (<0.60)	**47**	**8.2**	**50**	**31**
B-3 D 10.0-10.5[7]	11/23/10	10 to 10.5	B-14	ND (<0.60)	**44**	**5.8**	**48**	**28**
B-14 D 14.0-14.5	11/23/10	14.0 to 14.5	B-14	ND (<0.59)	**39**	**5.6**	**50**	**31**
MW-1D6.0	01/20/11	6.0 to 6.5	MW-1	ND (<0.64)	**180**	NA	**340**	**57**
MW-1D7.5	01/20/11	7.5 to 8.0	MW-1	**1.5**	**110**	NA	**91**	**85**
MW-1D8.5	01/20/11	8.5 to 9.0	MW-1	ND (<0.58)	**53**	NA	**53**	**30**
MW-1D20[4]	01/20/11	8.0 to 8.5	MW-1	ND (<0.63)	**95**	NA	**150**	**60**
Sitewide Arithmetic Mean				**0.1232**	**143.7**	**54.2**	**300.82**	**47.66**
Scott (1995)				NE	51.28 (30.5 to 72)	11.43 (6.8 to 16.1)	73.53 (46.4 to 101)	65.27 (47.7 to 82.8)
Bradford et al (1996)				0.73 (0.05 to 1.70)	49 (23 to 1,579)	21.1 (12.4 to 97.1)	41 (9 to 509)	122 (88 to 236)
OEHHA CHHSLs (Residential Land Use)				1.7	100,000 [3]	80	1,600	23,000
OEHHA CHHSLs (Commercial/Industrial Land Use)				7.5	100,000 [3]	320	16,000	100,000
OEHHA CHHSLs (Residential Land Use)				4.0	NE	80	NE	NE
OEHHA CHHSLs (Commercial/Industrial Land Use)				5.1	NE	320	NE	NE

General Notes:

Sample Depth:	Sample depth in feet below top of floor surface, feet bfs	ND (<1.0): Not detected at or above the laboratory reporting limit
mg/kg:	Milligrams per kilogram, 09/09 data reported as wet weight, 11/2010 data reported as dry-weight corrected	NE: Not established
Laboratory/Lab Methods:	TestAmerica Laboratories, Inc., Pleasanton, California (CAELAP #2496); EPA Method 6010B	

Detail Notes:

(1) **References for background metal concentrations as follows:**
Lawrence Berkeley National Laboratory (1995): *"Protocol for Determining Background Concentrations of Metals in Soil at Lawrence Berkeley National Laboratory (LBNL)*,"
A Joint Effort of Environment, Health and Safety Division, Lawrence Berkeley National Laboratory, University of California, Berkeley, CA. August 1995.

* Scott, Christina M. (1995): *"Background Metal Concentrations in Soils in Northern Santa Clara County, California,"* in: "Recent Geologic Studies in the San Francisco Bay Area,"
Top value represents average concentration from between 104 and 158 samples collected, and is used for comparison to site data. The range of values is presented in parentheses.

** Bradford, G. R., Chang, A. C., Page, A. L., Bakhtar, D., Frampton, J. A. and Wright, H. (1996): *"Background Concentrations of Trace and Major Elements in California Soils,"*
Kearney Foundation Special Report, Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996
Report covers soils over the entire state of California. For Tanklage Square site location, soil #49 from the report was used: Venice soil series from San Joaquin County, "Eric, thermic, Typic Medihemists" soils.
The range shown in parentheses reflects CA-wide range of values.

(2) Environmental Risk Screening Levels
OEHHA CHHSLs: California Human Health Screening Levels (CHHSLs) published by the California Environmental Protection Agency (CAL-EPA, January 2005, revised for Lead in September 2009):
"Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties."
Developed by the Office of Environmental Health Hazard Assessment (OEHHA), CHHSLs used to screen sites for human health concerns where chemical releases have occurred.
DTSC HERO: Table 1. RSL Calculator Risk-based Concentration Preliminary Remediation Goals (PRGs), California Department of Toxic Substances Control Office of Human and Ecological Risk, Human Health Risk Assessment Note Number: 3, May 21, 2013)

(3) Chromium (III)
(4) Sample MW-1D20 is a duplicate sample of MW-1D7.5
(5) Sample B-3 D 8.0-8.5 is a duplicate sample of B-13 D 8.0-8.5
(6) Sample B-3 D 5.5-6.0 is a duplicate sample of B-14 D 5.5-6.0
(7) Sample B-3 D 10.0-10.5 is a duplicate sample of B-14 D 10-10.5

290	**Bold** font indicates a detection above laboratory reporting limits
81	Highlighted gray indicates reported value is above the reported background concentration range AND the yellow shaded residential screening level
89	Highlighted yellow indicates the residential screening level used to higlight data gray

Table 4.
Groundwater Dissolved Metals Analytical Results

837 Industrial Road, San Carlos, CA

Sample ID	Sample Date	Boring	Cadmium	Chromium	Lead	Nickel	Zinc
			µg/l	µg/l	µg/l	µg/l	µg/l
B-5	11/22/10	B-5	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	ND (<20)
B-6	11/22/10	B-6	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**22**
B-7	11/23/10	B-7	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**23**
B-7 DUP (B-4)	11/23/10	B-7	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**23**
B-8	11/22/10	B-8	ND (<2.0)	**21**	ND (<5.0)	**33**	ND (<20)
B-9	11/22/10	B-9	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	ND (<20)
B-10	11/22/10	B-10	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	ND (<20)
B-11	11/22/10	B-11	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	ND (<20)
B-12	11/23/10	B-12	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**21**
B-13	11/23/10	B-13	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**23**
B-14	11/23/10	B-14	ND (<2.0)	ND (<10)	ND (<5.0)	ND (<10)	**21**
MW-1-GW	06/19/12	MW-1	ND (<2.0)	ND (<10)	NA	ND (<10)	ND (<20)
MW-1A-GW (1)	06/19/12	MW-1	ND (<2.0)	ND (<10)	NA	ND (<10)	ND (<20)
Environmental Screening Levels (2)							
RWQCB ESLs (Table F-1a, Groundwater Potential Source of Drinking Water)			0.25	180 (4)	2.5	8.2	81
California MCLs			5 (3)	50 (3)	15 (5)	100 (3)	NE

General Notes:

Laboratory/Lab Methods: TestAmerica Laboratories, Inc., Pleasanton, California (CAELAP #2496); EPA Method 6010B

µg/l Micrograms per liter (parts per billion equivalent)
ND (<1.0): Not detected at or above the laboratory reporting limit
NA: Not analyzed

Detail Notes:

(1) Sample MW-1A-GW is a duplicate sample of MW-1-GW.
(2) **Environmental Risk Screening Levels**
RWQCB E Environmental Screening Levels (ESLs) were taken from the San Francisco Bay Region, Regional Water Quality Control Board (RWQCB-SF):
Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater, Interim Final, November 2007, May 2008, Feb 2013, May 2013, December 2013.

California Maximum Contaminant Levels (MCLs) in Drinking Water. California Code of Regulation Title 22. Division 4. Environmental Health Chapter 15. Domestic Water Quality and Monitoring Regulations.
(3) Primary MCL
(4) Chromium (III)
(5) Regulatory Action Level

23 **Bold** font indicates a detection above laboratory reporting limits
7.5 Highlighted yellow indicates the screening level used to highlight data gray

Table 5. Summary of ARARs and TBCs

Standard, Requirement, Criteria, Limitation	Citation	Description	Type of ARAR / TBC
Federal			
Clean Air Act	42 USC 7401-7642	Emission standards from stationary and mobile sources.	Chemical
Hazardous Waste Identification	40 CFR 261.24	Establishes criteria to determine whether solid waste exhibits hazard characteristics of toxicity.	Chemical
National Primary and Secondary Ambient Air Quality Standards (NAAQS)	40 CFR Part 150	Establishes NAAQS for criteria pollutants: particulate matter (PM10), sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, and lead.	Chemical
Toxic Substance Control Act	40 CFR 761, Subpart G	Federally managed law that regulates the manufacture, use, distribution in commerce, and disposal of chemical substances, specifically polychlorinated biphenyls (PCB)	Chemical
Hazardous Materials Transportation, Marking, Labeling and Placarding	US Department of Transportation (DOT) 49 USC 1802, et seq. and 49 CFR 171 and 172	Provides standards for marking, labeling, placarding, and transportation of waste.	Action
National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122-124	Establishes requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Action
Occupational Health and Safety	29 CFR 1910.120	Establishes requirements for health and safety training.	Action
Transport of Hazardous Waste	40 CFR 263 and 49 CFR 100-185	Standards applicable to transporters of hazardous waste.	Action
Clean Water Act	33 USC 1251	Establishes regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Establishes ambient water quality criteria. Establishes Section 404 permitting requirements and Section 401 certification requirements for navigable waters.	Chemical/ Action
Classification and regulation of hazardous waste	40 CFR 260	Establishes criteria for the determination of hazardous waste and its regulation.	Chemical/ Action
USEPA “Superfund” Program	Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (US 1986). Part of the National Contingency Plan (NCP; US 1994)	Provides federal authority to respond to abandoned or uncontrolled hazardous waste disposal sites as well as to incidents involving hazardous substances, also provides for liability, compensation, cleanup, and emergency response in connection with cleanup of these “Superfund” sites.	Chemical/ Action
Resource Conservation and Recovery Act (RCRA)	42 USC 6901 et seq.	Classifies and regulates hazardous wastes and facilities which treat, store and dispose of hazardous materials.	Chemical/ Action
Health Risk Assessment	US EPA, Risk Assessment Guidance for Superfund, 1989	Guidance and framework to assess health risk.	TBC
EPA Regional Screening Levels	USEPA, Region 9, May 2013	Establishes screening levels for chemical contamination at hazardous waste sites.	TBC
State and Local			
Determination of Characteristic Wastes	22 CCR 66261.24	Establishes criteria for identifying characteristic wastes.	Chemical
Ambient Air Quality Standards	H&S Sec. 39000-44071	Establishes standards for emissions of chemical vapors and dust.	Chemical
Safe Drinking Water and Toxics Enforcement Act (Proposition 65)	22 CCR 12000	Warning requirements for toxic chemicals.	Chemical
Hazardous Waste Control	Health and Safety Code, Chapter 6.5, Sec. 25100-25250.26	Establishes hazardous waste control measures.	Action
Hazardous Waste Generator Requirements	22 CCR 66262.11 et seq.	Establishes standards applicable to generators of hazardous waste.	Action
Transportation of Hazardous Waste	22 CCR Chapter 13	Governs transportation of hazardous materials	Action
Occupational Health and Safety	8 CCR Sect. 1500, 2300, and 3200 et seq.	Establishes standards for working conditions and employees matter; and notification requirements.	Action
California Environmental Quality Act	Public Resources Code Section 21000-21177	Mandates environmental impact review of projects approved by governmental agencies.	Action
Hazardous Substances Account Act	Health and Safety Code, Chapter 6.8, Sec 25300-25395.15	Establishes site mitigation and cost recovery programs.	Action
Emission Standard	BAAQMD Regulation 6	Regulation 6 establishes emission standards for particulate matter.	Action
DTSC Policies and Procedures	DTSC	Applicable policies, procedures, management memos and related guidance documents including, but limited to, document numbers EO-92-MM, EO-95-007-PP, OPP 92-1, OPP 87-14, and OPP 86-22R.	Action
State Fire Marshal, Basic Operational Requirements	Title 19 CCR, Division 1, Chapter 1, Article 1	Establishes minimum standards for the prevention of fire and for the protection of life and property against fire, explosion and panic.	Action
Standards for Discharges of Waste to Land	Title 23 CCR, Division 3, Chapter 15, Article 1, Section 2511(d) and Articles 2, 8, and 9.	Exempts from Chapter 15 actions taken by a public agency to clean up waste, provided that waste removed from place of release shall be discharged according to the Article 2.	Action

Porter-Cologne Water Quality Control Act	Title 23 CCR, Division 3, Chapter 15, Article 2; Waste Classification and Management	Establishes/defines procedures and criteria for classification and management of waste.	Chemical/ Action
Determination of Hazardous Waste	22 CCR 66260.1 et seq.	Establishes criteria for determining waste classification for the purposes of transportation and disposal of wastes.	Chemical/ Action
Land Disposal Restrictions	22 CCR Chapter 18	Identifies hazardous waste restricted from land disposal unless specific treatment standards are met.	Chemical/ Action
Land Use Covenants	22 CCR Chapter 39, Division 4.5, Section 67391.1	Specify that a land use covenant imposing appropriate limitations on land use shall be executed and recorded when hazardous materials, hazardous wastes or constituents, or hazardous substances will remain at the property at levels which are not suitable for unrestricted use of the land.	Chemical/ Action
State Water Resources Control Board Non-Degradation Policy	Resolution 68-16 of the Basin Plan for San Francisco Bay	Limits water pollution to existing high quality waters.	Location
Stockpiling Requirements of Contaminated Soil	H&S Sec. 25123.3(a)(20)	Establishes standards for stockpiling of non-RCRA contaminated soil.	Location
Water Quality Control for the San Francisco Bay Basin	RWQCB	Establishes water quality objectives for the San Francisco Bay.	Location
Regional Water Quality Control Board (RWQCB)	RWQCB	Adopts narrative standards and permissible concentrations of organic and inorganic chemicals for surface water, groundwater, point sources and non-point sources. Establishes beneficial uses of surface waters and groundwater.	Location
NPDES Permit	NPDES (National Pollutant Discharge Elimination System)	The State Water Resources Control Board (SWRCB), as part of the National Pollutant Discharge Elimination System (NPDES), has adopted a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) to address discharges of storm water runoff from construction projects that encompass one acre or more in total acreage of soil disturbances.	TBC
Cal OSHA	8 CCR 5192	Requires workers involved in hazardous substance operations associated with cleanup of sites perform the cleanup operations in accordance with Cal OSHA health and safety requirements.	TBC
RWQCB Environmental Screening Levels	Screening For Environmental Concerns at Sites with Contaminated Soil and Ground water (Interim Final) RWQCB May 2013	Establishes screening levels for contaminants at hazardous waste sites.	TBC
California Human Health Screening Levels (CHHSLs)	Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties September 2010	Used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred.	TBC

Standard, Requirement, Criteria, Limitation	Citation	Description	Type of ARAR / TBC
Federal			
Clean Air Act	42 USC 7401-7642	Emission standards from stationary and mobile sources.	Chemical
Hazardous Waste Identification	40 CFR 261.24	Establishes criteria to determine whether solid waste exhibits hazard characteristics of toxicity.	Chemical
National Primary and Secondary Ambient Air Quality Standards (NAAQS)	40 CFR Part 150	Establishes NAAQS for criteria pollutants: particulate matter (PM10), sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, and lead.	Chemical
Toxic Substance Control Act	40 CFR 761, Subpart G	Federally managed law that regulates the manufacture, use, distribution in commerce, and disposal of chemical substances, specifically polychlorinated biphenyls (PCB)	Chemical
Hazardous Materials Transportation, Marking, Labeling and Placarding	US Department of Transportation (DOT) 49 USC 1802, et seq. and 49 CFR 171 and 172	Provides standards for marking, labeling, placarding, and transportation of waste.	Action
National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122-124	Establishes requirements to ensure storm water discharges do not contribute to a violation of surface water quality standards.	Action
Occupational Health and Safety	29 CFR 1910.120	Establishes requirements for health and safety training.	Action
Transport of Hazardous Waste	40 CFR 263 and 49 CFR 100-185	Standards applicable to transporters of hazardous waste.	Action
Clean Water Act	33 USC 1251	Establishes regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Establishes ambient water quality criteria. Establishes Section 404 permitting requirements and Section 401 certification requirements for navigable waters.	Chemical/ Action
Classification and regulation of hazardous waste	40 CFR 260	Establishes criteria for the determination of hazardous waste and its regulation.	Chemical/ Action
USEPA “Superfund” Program	Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (US 1986). Part of the National Contingency Plan (NCP; US 1994)	Provides federal authority to respond to abandoned or uncontrolled hazardous waste disposal sites as well as to incidents involving hazardous substances, also provides for liability, compensation, cleanup, and emergency response in connection with cleanup of these “Superfund” sites.	Chemical/ Action
Resource Conservation and Recovery Act (RCRA)	42 USC 6901 et seq.	Classifies and regulates hazardous wastes and facilities which treat, store and dispose of hazardous materials.	Chemical/ Action
Health Risk Assessment	US EPA, Risk Assessment Guidance for Superfund, 1989	Guidance and framework to assess health risk.	TBC
EPA Regional Screening Levels	USEPA, Region 9, May 2013	Establishes screening levels for chemical contamination at hazardous waste sites.	TBC
State and Local			
Determination of Characteristic Wastes	22 CCR 66261.24	Establishes criteria for identifying characteristic wastes.	Chemical
Ambient Air Quality Standards	H&S Sec. 39000-44071	Establishes standards for emissions of chemical vapors and dust.	Chemical
Safe Drinking Water and Toxics Enforcement Act (Proposition 65)	22 CCR 12000	Warning requirements for toxic chemicals.	Chemical
Hazardous Waste Control	Health and Safety Code, Chapter 6.5, Sec. 25100-25250.26	Establishes hazardous waste control measures.	Action
Hazardous Waste Generator Requirements	22 CCR 66262.11 et seq.	Establishes standards applicable to generators of hazardous waste.	Action
Transportation of Hazardous Waste	22 CCR Chapter 13	Governs transportation of hazardous materials	Action
Occupational Health and Safety	8 CCR Sect. 1500, 2300, and 3200 et seq.	Establishes standards for working conditions and employees matter; and notification requirements.	Action
California Environmental Quality Act	Public Resources Code Section 21000-21177	Mandates environmental impact review of projects approved by governmental agencies.	Action
Hazardous Substances Account Act	Health and Safety Code, Chapter 6.8, Sec 25300-25395.15	Establishes site mitigation and cost recovery programs.	Action
Emission Standard	BAAQMD Regulation 6	Regulation 6 establishes emission standards for particulate matter.	Action
DTSC Policies and Procedures	DTSC	Applicable policies, procedures, management memos and related guidance documents including, but limited to, document numbers EO-92-MM, EO-95-007-PP, OPP 92-1, OPP 87-14, and OPP 86-22R.	Action
State Fire Marshal, Basic Operational Requirements	Title 19 CCR, Division 1, Chapter 1, Article 1	Establishes minimum standards for the prevention of fire and for the protection of life and property against fire, explosion and panic.	Action
Standards for Discharges of Waste to Land	Title 23 CCR, Division 3, Chapter 15, Article 1, Section 2511(d) and Articles 2, 8, and 9.	Exempts from Chapter 15 actions taken by a public agency to clean up waste, provided that waste removed from place of release shall be discharged according to the Article 2.	Action

Table 6. Summary of ARARs and TBCs

Porter-Cologne Water Quality Control Act	Title 23 CCR, Division 3, Chapter 15, Article 2; Waste Classification and Management	Establishes/defines procedures and criteria for classification and management of waste.	Chemical/ Action
Determination of Hazardous Waste	22 CCR 66260.1 et seq.	Establishes criteria for determining waste classification for the purposes of transportation and disposal of wastes.	Chemical/ Action
Land Disposal Restrictions	22 CCR Chapter 18	Identifies hazardous waste restricted from land disposal unless specific treatment standards are met.	Chemical/ Action
Land Use Covenants	22 CCR Chapter 39, Division 4.5, Section 67391.1	Specify that a land use covenant imposing appropriate limitations on land use shall be executed and recorded when hazardous materials, hazardous wastes or constituents, or hazardous substances will remain at the property at levels which are not suitable for unrestricted use of the land.	Chemical/ Action
State Water Resources Control Board Non-Degradation Policy	Resolution 68-16 of the Basin Plan for San Francisco Bay	Limits water pollution to existing high quality waters.	Location
Stockpiling Requirements of Contaminated Soil	H&S Sec. 25123.3(a)(20)	Establishes standards for stockpiling of non-RCRA contaminated soil.	Location
Water Quality Control for the San Francisco Bay Basin	RWQCB	Establishes water quality objectives for the San Francisco Bay.	Location
Regional Water Quality Control Board (RWQCB)	RWQCB	Adopts narrative standards and permissible concentrations of organic and inorganic chemicals for surface water, groundwater, point sources and non-point sources. Establishes beneficial uses of surface waters and groundwater.	Location
NPDES Permit	NPDES (National Pollutant Discharge Elimination System)	The State Water Resources Control Board (SWRCB), as part of the National Pollutant Discharge Elimination System (NPDES), has adopted a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) to address discharges of storm water runoff from construction projects that encompass one acre or more in total acreage of soil disturbances.	TBC
Cal OSHA	8 CCR 5192	Requires workers involved in hazardous substance operations associated with cleanup of sites perform the cleanup operations in accordance with Cal OSHA health and safety requirements.	TBC
RWQCB Environmental Screening Levels	Screening For Environmental Concerns at Sites with Contaminated Soil and Ground water (Interim Final) RWQCB May 2013	Establishes screening levels for contaminants at hazardous waste sites.	TBC
California Human Health Screening Levels (CHHSLs)	Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties September 2010	Used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred.	TBC

APPENDICES

Appendix A: Photos

Photos of Work Performed by ERS

November 2012

<u>Repairs to Southeast Wall of Restroom in Suite E</u>

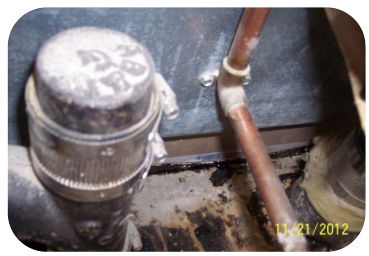
Toilet was removed, flooring covered, and drywall cut to provide access to the trench

Once drywall removed, small amount of tar-like substance visible under insulation

Tar-like substance

Removing insullation around pipe to allow clean up

Pipes and concrete-covered trench exposed



Small amount of tar-like substance along rear wall

Tar-like substance was removed and fresh concrete poured to seal area around pipes

Fresh concrete

New drywall installed, flooring uncovered and toilet re-installed

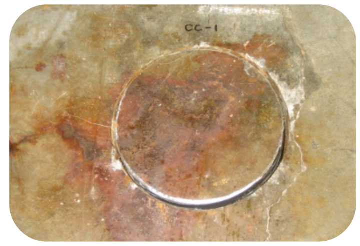
Photos of Work Performed by Superior Coring and Cutting, Inc.

12.5.2012

<u>Concrete Cores Collected from Warehouse Area of Suite E (See **Figure 4**)</u>

CC-1: concrete cored in area of brown staining to see if tar-like substance has seeped into the area

CC-1



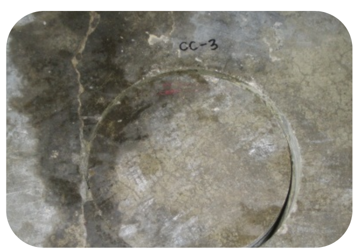
CC-1

CC-1

CC-2: cored adjacent to crack in concrete floor with black staining evident

CC-2

CC-3: cored along crack in concrete floor with black staining evident



CC-3

CC-3

Photos of Concrete Covered Trench and Access Plates

8.21.2013


Sump with concrete plate, located in electrical room


Concrete covered trench with access plate (Suite D)


Access plate (Suite D)


Access plaste (Suite D)


Access plate with tar-like substance visible in trench (Suite D)

Appendix B – 95% UCL Calculation for Lead

	All Data	Without DP-02(12.5-13.5)-WSP2
n	46	45
sq rt of n	6.78	6.71
mean	54	36
stddev	141	70
t value	2.01	2.01
95% UCL	96	57

Appendix C: Cost Analyses for Removal Action Alternatives 2 and 3

Cost Analysis for Alternative 2: Soil Excavation and Removal				
Task	**Unit**	**Quantity**	**Unit Cost**	**Total**
Task 1: Pre-Field Activities				
Mark Excavation Area for utility clearance	HR	4	$95.00	$380.00
Private utility locator	LS	1	$500.00	$500.00
Acquire USA Ticket	HR	1	$95.00	$95.00
Acquire Permits	LS	1	$4,000.00	$4,000.00
Project Management	HR	20	$125.00	$2,500.00
Subtotal				**$7,475.00**
Task 2: Building Preparation				
Soils engineer fees	LS	1	$3,450.00	$3,450.00
Utilities management (temporary power lines, fire line support, re-direct phone/data lines, on-site generator)	LS	1	$78,000.00	$78,000.00
Dismantle interior walls & remove concrete floors / slab	LS	1	$11,800.00	$11,800.00
Structural engineer fees	LS	1	$5,750.00	$5,750.00
Subtotal				**$99,000.00**
Task 3: Excavation and Backfill				
Excavate soils to approx. depth of 12 feet beneath building (includes shoring and sewer line support)	LS	1	$38,700.00	$38,700.00
Excavate soils to approx. depth of 12 feet beneath parking lot (includes protection of several utilities present beneath excavation area)	LS	1	$74,300.00	$74,300.00
Shoring of excavation walls and building	LS	1	$232,375.00	$232,375.00
Stockpile top 7ft of soil for re-use as backfill[1]	LS	1	$10,000.00	$10,000.00
Backfill excavations with stockpiled material and quarried base rock material and compact to 90% compaction	LS	1	$73,800.00	$73,800.00
Quarried base rock material cost	YD	700	$33.00	$23,100.00
Restoration of sidewalk & landscaping	LS	1	$20,000.00	$20,000.00
Subtotal				**$472,275.00**
Task 4: Confirmation Sampling				
Sample soil from excavation walls and floor. Analyze for TPHd, TPHmo, PCB-1260, and lead.	EA	20	$140.00	$2,800.00
Subtotal				**$2,800.00**
Task 5: Building Repair				
Resurface interior excavation with reinforced concrete	LS	1	$31,500.00	$31,500.00
Resurface exterior excavation with asphalt	LS	1	$1,000.00	$1,000.00
Site clean-up	LS	1	$4,100.00	$4,100.00
Replace and refinish interior walls, ceiling and flooring	SQ FT	900	$150.00	$135,000.00
Engineer fees	LS	1	$5,000.00	$5,000.00
Replace utility room electrical and phone to code	LS	1	$75,000.00	$75,000.00
Subtotal				**$251,600.00**
Task 6: Transportation and Disposal				
Top 7 feet of soil [1]	TON	0	$0.00	$0.00
Bottom 6 feet of soil (Class II Non-Haz)[2]	TON	1,120	$41.00	$45,920.00
Bottom 6 feet of soil (Class I Hazardous)[3]	TON	280	$131.00	$36,680.00
Subtotal				**$82,600.00**

Task	Unit	Quantity	Unit Cost	Total
Task 7: Reporting				
CAD	HR	25	$75.00	$1,875.00
Geologist	HR	60	$125.00	$7,500.00
QA/QC	HR	10	$150.00	$1,500.00
Project Management	HR	10	$150.00	$1,500.00
Subtotal				**$12,375.00**
			contractor mark up	*$50,000.00*
TOTAL				**$978,125.00**

Table notes:

[1] Significant concentrations of COCs are not observed until 7.5 feet below top surface.

[2] Based on analysis of soil samples to date and classification of soils previously removed from the site, it is assumed that approximately 80% of the soils below 7 feet depth will be classified as Class II non-hazardous waste. Assumes 1.5 tons/yard.

[3] It is assumed that approximately 20% of the soils removed from below 7 feet depth will be classified as Class I hazardous waste. Assumes 1.5

Cost Analysis for Alternative 3: Operation and Maintenance				
Task	**Unit**	**Quantity**	**Unit Cost**	**Total**
Task 1: Operation and Maintenance Plan				
CAD	HR	20	$75.00	$1,500.00
Geologist	HR	50	$125.00	$6,250.00
QA/QC	HR	10	$150.00	$1,500.00
Project Management	HR	5	$150.00	$750.00
Subtotal				**$10,000.00**
Task 2: Annual Sump Maintenance				
Project Management	HR	8	$150.00	$1,200.00
Geologist	HR	12	$125.00	$1,500.00
Environmental Contractor	LS	2	$1,000.00	$2,000.00
Waste Removal	LS	2	$150.00	$300.00
Subtotal (annual)				**$5,000.00**
Subtotal (net 5 years)				**$25,000.00**
Task 3: Groundwater Sampling and Visual Inspections				
Pre-field activities & preparation	HR	10	$95.00	$950.00
GW Sampling Contractor to sample MW-1	LS	2	$500.00	$1,000.00
Field Support Services	HR	6	$95.00	$570.00
Lab analyses of GW samples (TPHd, TPHmo, PCB-1260, lead)	EA	4	$140.00	$560.00
Transportation & disposal of GW sampling drum	EA	2	$150.00	$300.00
Removal/disposal of observed tar-like substance	LS	1	$1,000.00	$1,000.00
Subtotal (annual)				**$4,380.00**
Subtotal (net 5 years)				**$21,900.00**
Task 4: Reporting				
Task 4a: Operation and Maintenance Reporting				
CAD	HR	8	$75.00	$600.00
Geologist	HR	30	$125.00	$3,750.00
QA/QC	HR	4	$150.00	$600.00
Project Management	HR	6	$150.00	$900.00
Task 4b: Five Year Review Report				
CAD	HR	16	$75.00	$1,200.00
Geologist	HR	50	$125.00	$6,250.00
QA/QC	HR	8	$150.00	$1,200.00
Project Management	HR	6	$150.00	$900.00
Subtotal (annual)				**$5,850.00**
Subtotal (net 5 years)				**$15,400.00**
	contractor mark up			*$700.00*
5-year Total Cost				**$73,000.00**

Appendix D: Draft CEQA Notice of Exemption

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Brownfields and Environmental Restoration Program
700 Heinz Avenue
Berkeley, CA 94710

Project Title: Tanklage Square

Project Location: 837 Industrial Road, San Carlos

County: San Mateo County

Project Description:
The California Department of Toxic Substances Control (DTSC), pursuant to authority granted under Chapter 6.8, Division 20, sections 25323.1 and 25356.1 pursuant to the Health and Safety Code (H&SC) is seeking to approve a RAW as submitted on September 2013, by Green Environment, Inc. on behalf of Tanklage Family Partnership. The RAW involves the implementation of a Land Use Covenant/deed restrictions to prohibit the use of the property as a residence, hospital, school, daycare center and limit the Site use to commercial/industrial purposes.

Background:

Tanklage Square is located in a commercial/industrial area of eastern San Carlos. It is bound by Industrial Road to the southwest and Highway 101 to the northeast. Tanklage Square includes 6 commercial/industrial buildings developed by Tanklage between 1978 and 1980 on approximately 8 acres. The Site is located at 837 Industrial Road, San Carlos and consists of a commercial building that faces Industrial Road. The Site (Assessor's Parcel Number 046-140-100, lot 2) is approximately 22,000 square feet, and is divided into 8 suites (A-H), leased by Tanklage to several commercial businesses.

In early 2008, a black-tar like substance was observed in the bathroom of Suite D of the Site. A shallow and sloping trench was dug beneath the building to intersect the tar-like substance and collect the tar-like substance in a small sump. A sample of the black tar-like substance contained acetone, diesel range organic compounds (DRO), motor oil range organic compounds (MRO), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals. Low concentrations of metals were detected in the water overlying the tar-like substance.

Between 2009 and 2012, Green Environment, Inc. on behalf of Tanklage Family Partnership conducted environmental investigations for soil at the Site to investigate the tar-like substance. In total, 52 soil samples were analyzed for gasoline range organic compounds, diesel range organic compounds, motor oil range organic compounds, PCBs, volatile organic compounds (VOCs), and PAHs, and 27 soil samples were analyzed for metals. Soil samples indicated that soils located in the area of the tar-like substance are impacted primarily with diesel and motor oil range organic compounds with the highest concentrations generally observed from 7 to 13 feet deep. Other lesser soil impacts include PCBs, PAHs (primarily chrysene and pyrene) and several heavy metals. The VOCs acetone and methyl ethyl ketone were detected in soil, but at low concentrations. Other lesser soil impacts with VOCs include carbon disulfide, naphthalene, toluene, Tetrachloroethylene (PCE), trichloroethylene (TCE), trimethylbenzenes (TMB) and xylenes. The limited detections of PCE and TCE were at low concentrations mainly in saturated zone soils.

The Site is currently capped with pavement and a building on top of a concrete slab foundation (Cap). Therefore, direct contact with the tar-like substance or impacted soils can only occur during subsurface construction activities, or if the tar-like substance migrates to the surface through cracks, gaps, or penetrations in the Cap.

Groundwater:

Groundwater samples were analyzed for metals, gasoline range organics, diesel range organics, motor oil range organics, and VOC's. Between 2009 and 2012, investigations included collecting and analyzing 20 grab groundwater samples and the installation of a monitoring well down gradient of the Site. Groundwater is impacted with low levels of halogenated volatile organic compounds (HVOCs), primarily chloroform, 1,2-dichloroethane (1,2-DCA), PCE and TCE. The groundwater sampling results and offsite groundwater data indicate that the HVOCs in groundwater migrated onto the Site from an undetermined off-site source or sources. The highest concentration of PCE was detected in the inferred up gradient location at 1,700 micrograms per liter (ug/L), near the tar-like substance at the center of the Site at 730 ug/L, and at the inferred down gradient location at 180 ug/L. Groundwater is not significantly impacted with diesel to motor oil range organic compounds, PAHs, PCBs or metals. Groundwater at the Site is not a drinking water source, there are no water supply wells within a one mile radius of the Site, and the water supply for the City of San Carlos is provided by the California Water Service Company and comes from the Hetch Hetchy Reservoir. Therefore, drinking water is not considered to be a potential exposure pathway at the Site.

Chemicals of concern (COCs) for the Site have been determined to be diesel and motor oil range organics and PCBs in soil and PCE in groundwater. The highest detected concentrations for each COC are summarized in the table below.

Maximum Detected Concentrations of COCs

Media	Chemical of Concern	Maximum Detected Concentration
Soil	Diesel Range Organics	5,400 mg/kg
Soil	Motor Oil Range Organics	11,000 mg/kg
Soil	Polychlorinated Biphenyls	44,000 mg/kg
Groundwater	Tetrachloroethylene	1,700 ug/L

<u>Project Activities:</u>

The project activities described in the RAW are a land use covenant and an Operation and Maintenance Plan.

The Land Use Covenant will ensure that:

- The property is not used for a residence, hospital, public or private school for persons under 21 years of age, or a day care center for children.
- Activities that may disturb the Cap (e.g. excavation, grading, removal, trenching, filling, earth movement, or mining) will not be permitted on the Site without prior written approval by DTSC.
- All uses and development of the Site will preserve the integrity or effectiveness of the Cap.
- Any contaminated soils brought to the surface by grading, excavation, trenching or backfilling will be managed in accordance with all applicable provisions of state and federal law.
- Groundwater will not be used without prior written approval by DTSC.
- DTSC will be notified of any proposed change in land use.

The Operation and Maintenance Plan will require:

- Periodic cleaning of the collection sump and proper offsite disposal of any tar-like substance that is collected.
- Periodic visual inspections of the Site to look for evidence of the tar-like substance on any floor surfaces
- Periodic sampling and analysis of one groundwater monitoring well
- An annual report summarizing Operation and Maintenance activities to be submitted to DTSC in December of every year.

<u>Name of Public Agency Approving Project</u>: Department of Toxic Substances Control

<u>Name of Person or Agency Carrying Out Project</u>: Tanklage Family Partnership

<u>Exemption Status</u>: (check one)

☐ Ministerial [PRC, Sec. 21080(b)(1); CCR, Sec. 15268]
☐ Declared Emergency [PRC, Sec. 21080(b)(3); CCR, Sec.15269(a)]
☐ Emergency Project [PRC, Sec. 21080(b)(4); CCR, Sec.15269(b)(c)]
☒ Categorical Exemption: [Class 30 Categorical Exemption Cal. Code Regs,. Title 14, §15330]
☐ Statutory Exemptions: [State code section number]
☐ General Rule [CCR, Sec. 15061(b)(3)]

<u>Exemption Title</u>: Minor actions to prevent, minimize, stabilize, mitigate or eliminate the release or threat of release of hazardous waste or hazardous substances.

<u>Reasons Why Project is Exempt</u>:

1. The project is a minor action designed to prevent, minimize, stabilize, mitigate or eliminate the release or threat of release of hazardous waste or hazardous substances.
2. The project will not exceed $1 million in cost.

3. The project does not involve the onsite use of a hazardous waste incinerator or thermal treatment unit or the relocation of residences or businesses, and does not involve the potential release into the air of volatile organic compounds as defined in Health and Safety Code Section 25123.
4. The exceptions pursuant to Cal. Code Regs., tit. 14, § 15300.2 have been addressed as follows:
   - Cumulative Impact. The project will not result in cumulative impacts because it is a Land Use Covenant/Deed Restriction with no construction activities and the final remedy that would not lead to a succession of projects of the same type in the same place over time.
   - Significant Effect. The environmental safeguards and monitoring procedures that are enforceable and made a condition of project approval will prevent unusual circumstances from occurring so that there is no possibility that the project will have a significant effect on the environment.
   - Scenic Highways. The project will not damage scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, because it is not located within a highway officially designated as a state scenic highway.
   - Hazardous Waste Sites. The project is not located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

Evidence to support the above reasons is documented in the project file record, available for inspection at the following address:

Department of Toxic Substances Control
Brownfields and Environmental Restoration
700 Heinz Avenue
Berkeley, California 94710

George Chow	Environmental Scientist	(510) 540-3879
Project Manager Name	Project Manager Title	Phone #
Unit Chief Signature		Date
Denise Tsuji	Senior Environmental Scientist (Supervisory)	(510) 540-3824
Unit Chief Name	Unit Chief Title	Phone #

TO BE COMPLETED BY OPR ONLY

Date Received For Filing and Posting at OPR: